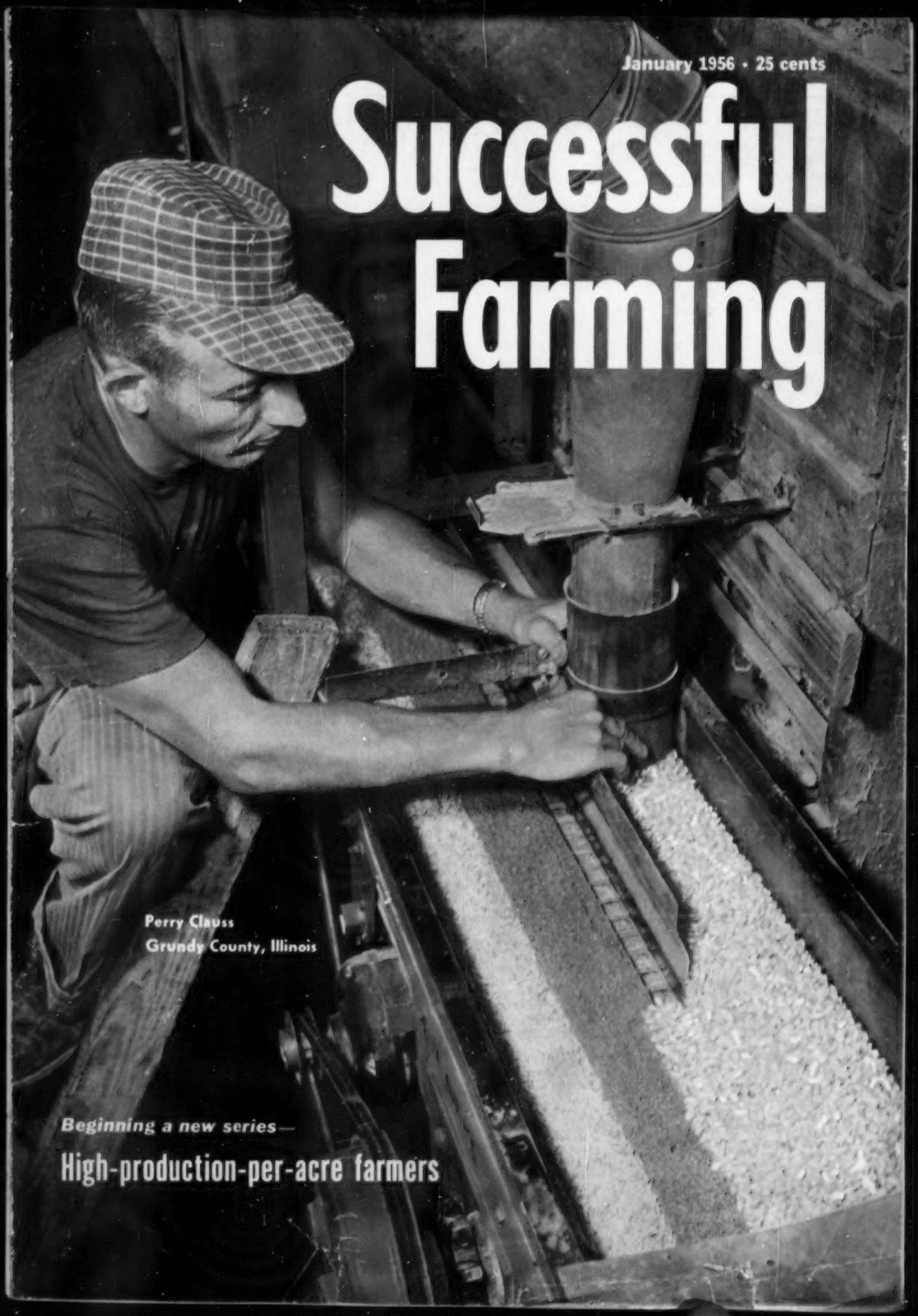
January 1956 · 25 cents

Successful Farming



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Grundy County, Illinois

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UNI-FORAGOR
This Uni-Machine chops hay or row crops to the lengths you want, has plenty of power and capacity for heaviest going.

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makes you money like the Champion it is!

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Winner and still Champion! In the 1954 International Mechanical Corn Picking Contest MM Uni-Huskors placed 1st, 2nd, and 3rd. Now, in the 1955 contest, the Uni-Huskor proved its Championship by taking 1st Prize in 2-row U. S. competition and placing 1st, 2nd, and 3rd in All-Canada Self-Propelled Corn Picking Contest.

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And look at the money you save! You save up to $1500 or more on the Uni-Tractor and 3 Uni-Machines over the cost of pull-behind equipment. Every Uni-Machine you buy after that adds to that first big saving.

You owe it to yourself to get the facts about Uni-Farming. Mail the coupon for free literature. Then see your MM Dealer for first-hand information.

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MINNEAPOLIS 1, MINNESOTA

World Championship Performance and...

UNI-TRACTOR and 3 UNI-MACHINES COST $1500 LESS THAN PULL-BEHINDS

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New Uni-Matic height control, big, 10-foot capacity and perfect cutting visibility make this self-propelled windrower outstanding. You'll use this cost-cutting Uni-Machine all summer long.

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1st AGAIN IN '55!

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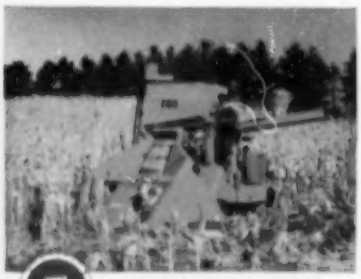
In 1954 this MM Uni-Huskor won 1st, 2nd and 3rd prizes in the toughest international competition. Then, again in 1955, Uni-Huskors won again. MM husking bed with rotating and side-to-side action, Uni-Matic height control, full length corn saver . . . these are MM advantages that make you a Champion in your own corn.



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( ) UNI-FORAGOR ( ) UNI-WINDROWER
( ) UNI-HUSKOR ( ) UNI-PICKER-SHELLER

Tell us WHAT other Uni-Machines you'd be interested in—in the future?

.....

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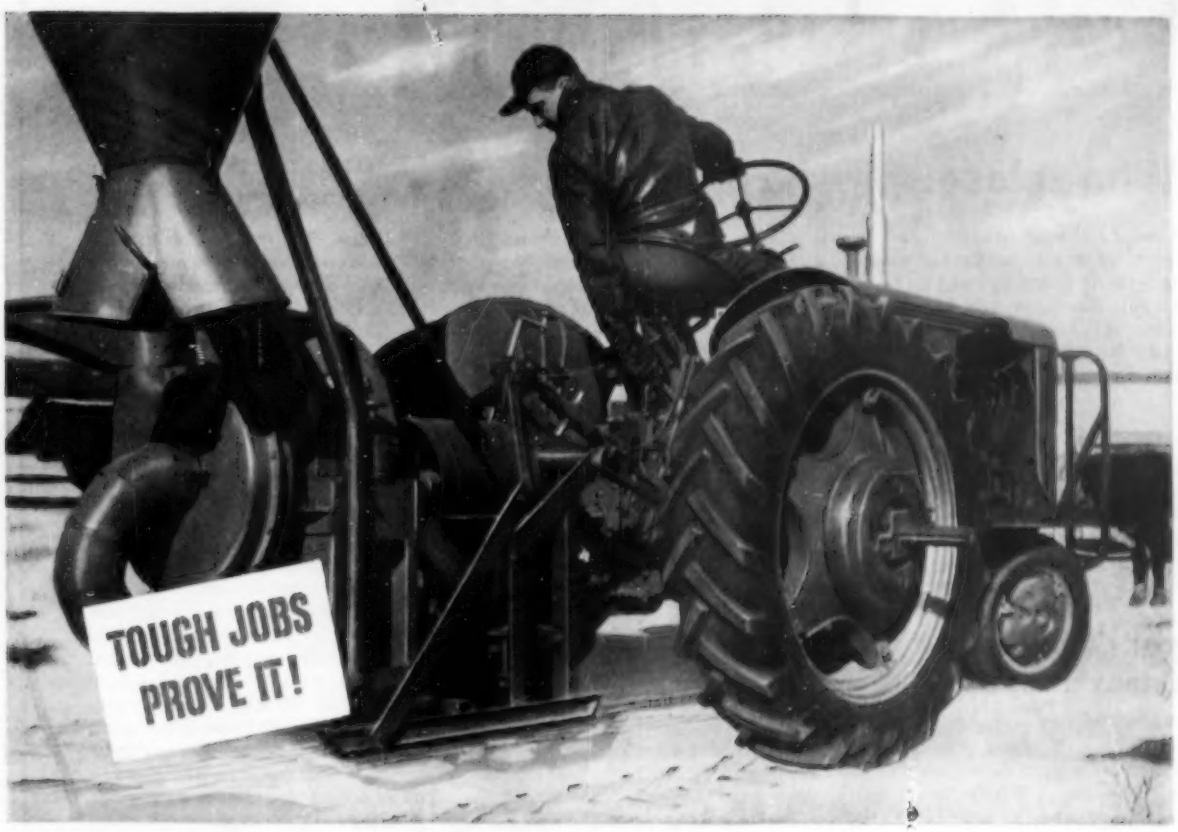
RFD.....Box.....

Postoffice.....State.....



Even in winter-slick fields
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Why Super-Sure-Grip does more work, keeps tire costs low—

EXCLUSIVE, RULER-STRAIGHT LUGS, coming closer together at shoulders (A), take a "wedge-in" bite that *firms* loose soil—gives "the greatest pull on earth!"

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LONG, EVEN WEAR—*ruler-straight* lugs work evenly against soil, roll smoothly on road—and so wear slowly and evenly!

RE-LUGGING SAVINGS—vastly stronger body keeps Super-Sure-Grip *fit* to re-lug or retread—and *re-use*. Goodyear, Farm Tire Dept., Akron 16, Ohio.

Super-Sure-Grip—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

HAULING A HEAVY MULCHER OVER FROZEN PASTURES shows the difference between Goodyear's *field-proved* Super-Sure-Grip and other tires that merely look like it.

For while "looks" may be copied, Goodyears are the *only* foremost farm tractor tires featuring ruler-straight lugs and "wedge-in" action—with all the extra traction, gas savings and labor savings that means to you.

Such extra values are extra reasons why survey after survey shows—

MORE FARMERS PREFER GOODYEAR TRACTOR TIRES THAN ALL OTHER MAKES *PUT TOGETHER!*

Look for this sign; there's a Goodyear dealer near you.

GOODYEAR TIRES

GOODYEAR
Super-Sure-Grip Tractor Tires

SUCCESSFUL FARMING'S NEWS OF THE MONTH

What closer pork trim means

Chicago.—Closer trimming of pork loins, hams, and Boston butts, voluntarily agreed upon by many meat packers last November, will help the producer of lighter, leaner hogs.

At this writing, the price spread in many areas is $1 per hundredweight for No. 1's over No. 3's—and 50 cents between No. 2's and No. 3's in most price brackets. It is anticipated that the spread might even go to $1.50 for hogs averaging around 210 pounds (mostly 1's and 2's) over lots weighing more than 250 pounds (mostly 2's and 3's).

There's one big drawback: Trimmed-off fat further aggravates the animal fat problem. This closer trim at the packing house on a typical 12-pound loin puts about ¾ of a pound more fat into the rendering tank. This ¾ of a pound removed from the loin is worth only about 6 cents to the packer, whereas it would have brought around 24 cents if sold as part of the loin.

Pork-chop eaters are willing to pay extra for lean chops says the University of Illinois. Fat and lean chops in similar packaging were displayed side by side in self-service meat departments. Lean chops, with 10 cents a pound higher price tags, outsold fat chops by two to one.

Soil-fertility-bank details shape up

Washington.—Details of Secretary Benson's soil-fertility-bank plan to be presented to Congress this month are nearing completion. Here's the direction they are expected to take:

- A special appropriation of about $500 million over and above the $250 million A.C.P. program. This money would be used for 2 purposes:

1. To pay you for seed and labor costs for diverting good land to grass.
2. To pay you "rent" for keeping those acres in reserve under a 5-year contract.

- On the rental part of the program, insiders say rates might be about 6 percent of appraised land value as determined by the county A.S.C. committee.

Officials believe Congress would approve this approach swiftly—so payments could get started this summer. See *The Farmer's Washington*, page 18.

Group suggests new dairy program

Major changes in our approach to dairy problems are suggested in a special report by the Agriculture Committee of the nonprofit, nonpolitical National Planning Association issued in mid-December:

1. Production payments at about 90 percent of parity for a trial period of 2 to 5 years.
2. An experimental "Stamp Plan" to increase consumption by relief agencies and needy people. Low-income families would pay what they could and the government would absorb the rest.
3. The regular school-lunch program should be expanded and the *special* $50 million school-lunch program should be doubled.
4. Increase exports of canned and dried milk through selling and giving.
5. Consider reducing tariffs and increasing quotas on dairy imports.

Moisture checks help crop planning

Iowa State College has inaugurated subsoil moisture testing to aid farmers with field plans for the coming year.

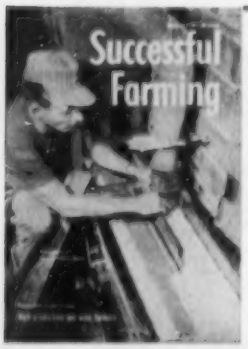
This winter, in areas where subsoil moisture is low, Iowa farmers are being told they'll probably profit by holding their corn planting rates below 12,000 plants per acre. Rather than plowing under nitrogen, it's being suggested that 60 pounds of nitrogen be side-dressed. This is about ⅔ or ½ the usual rate—but all that the moisture present indicates will be profitable.

Instead of plowing up good stands of alfalfa, the agronomists are urging corn after corn in these dry areas.

This important new development came about as a result of tests in 1953 showing that the crop that year resulted from corn roots drawing on subsoil moisture reserves built up the previous season. Then in 1954 researchers saw a much-below-average corn crop despite seasonal rains similar to '53—due to a lack of subsoil moisture.

During 1955, the subsoil moisture reports went out to county extension offices 5 times. Of special significance is the one just released giving the late fall picture. The Iowa researchers have found that winter precipitation has little effect on soil moisture and that the present conditions are close enough to next spring's to safely make crop management recommendations.

Will this work in other states? It will where *average* summer rainfall is too low to make the corn crop, but will be of no value, of course, where low subsoil moisture is the usual situation. Subsoil moisture testing is expensive to set up but other states in the western half of the Cornbelt will no doubt soon be working with it.



On the cover

Mazon, Illinois—If you're thinking about automatic feed grinding, a good man to talk to is Perry Clauss. When he wants feed for his purebred Tamworth hogs, he presses a button and machinery does the rest.

Our photograph shows Clauss adjusting the amount of corn flowing along the apron with other ration ingredients, to the hammer mill. A 5-hp motor runs the mill, ground feed is blown overhead, everything shuts off automatically.

Photograph: Pease

Approve antibiotics to preserve fresh poultry

Last month on this page we gave you details of a revolutionary process to keep meat fresh longer with addition of antibiotics. Since then, the Food and Drug Administration has given permission to use aureomycin to preserve fresh poultry.

Later, officials say, applications are expected for use of antibiotics on beef and fish for longer freshness.

SUCCESSFUL FARMING JANUARY 1956
VOLUME 54 NUMBER 1

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How to keep your fences from shrinking...

Land has a solidity to it that fools many men. They think of it as a lasting, permanent thing, as enduring as the hills themselves and as little subject to changes wrought by time.

And so they like to dream that their land, their farms, will remain unaltered and undiminished for their children and their children's children to enjoy and prosper from as the years go by.

Yet often when a farmer dies, the land he owns *does* shrink—in size, in worth and in value to his heirs.

It shrinks, usually, because the farmer didn't leave enough *cash* to keep the fences where they were . . . enough cash to pay the estate taxes, inheritance taxes, administration costs and other debts and obligations that pile up at such a time.

When his family has no means of raising all this money in a hurry, some of the land must go—and the fences must move in.

Today, many forward-looking farmers are taking steps to make sure their farms will be "shrinkproof" for their heirs. They are doing this by setting up life insurance programs with New York Life, which would provide ample ready cash for estate settlement costs.

Your New York Life agent will be glad to show you how easily and how economically this can be arranged.

WHOLE LIFE POLICY IDEAL FOR ESTATE PROTECTION

Recently New York Life introduced its Whole Life policy (minimum amount $10,000) available at a remarkably low premium. It is ideally suited for farm protection needs. It guarantees high immediate cash payments to heirs, and at the same time builds substantial cash values for the policy owner himself—creates a fund usable for any emergency need. It will pay you well to get all the facts about this policy from the New York Life agent in your county. If you don't know his name, just write to the address below.

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IN YOUR COUNTY
IS A GOOD MAN TO KNOW

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ZONOLITE® INSULATED FARM BUILDING

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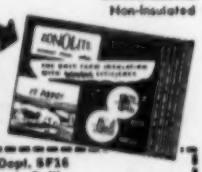

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Successful Farming®

January, 1956
Vol. 54, No. 1

THE MAGAZINE OF FARM BUSINESS AND FARM HOMES

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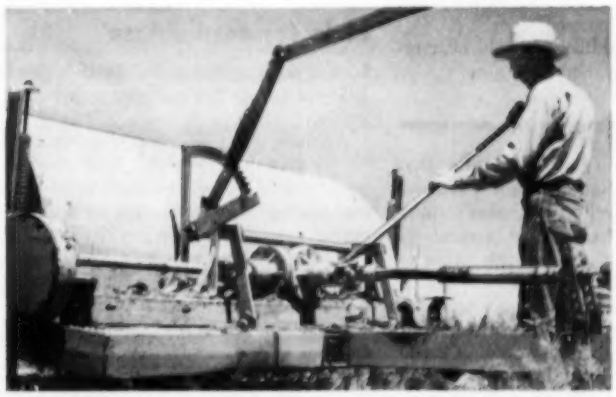
"It takes a team of Champions to harvest 180 acres of potatoes in 2 short weeks"

says Mont Anderson, Blackfoot, Idaho

Mr. Anderson farms 50 acres of his own and 100 acres in partnership with Mr. Kamphaus. In 1953, Mont Anderson's yield was an average 200 sacks of number one potatoes per acre.



Frank Kamphaus, who farms 30 acres of potatoes on his own, cleans out the jointly owned potato beater. He and Anderson also own a potato combine in partnership.

The partners' potato cellar is 220 ft. long, 12 ft. high, 36 ft. wide. It holds 15,000 sacks of potatoes in 100-lb. sacks. The cellar keeps the crop cool in hot weather, prevents freezing when temperatures outside drop as low as 32° F. below zero.

Mont Anderson, successful potato farmer since 1946, and partner Frank Kamphaus together farm 180 acres of Idaho potatoes. All their land in the Snake River plains region is under irrigation, too.

Outside help is hard to get, and there are only two short weeks to dig an average of 175 sacks per acre out of the ground. So, Mr. Anderson and Mr. Kamphaus depend heavily on their equipment, a 2-ton truck, two tractors, potato digger, potato combine and beater.

Should equipment fail during the critical harvest period, there's serious danger of losing crop and profit. For that reason, both men insist on operating their farm engines—and personal cars, too—with dependable, full-firing Champion Spark Plugs.

"We've found," says Mr. Anderson, "that it takes a team of Champions to keep our engines at top efficiency under these conditions. That team helps keep us going, season after season, regardless of weather."

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CHAMPION

SPARK PLUGS

FOR EVERY FARM ENGINE

CHAMPION SPARK PLUG COMPANY, TOLEDO, OHIO

This month's highlights

- **1956 hog price range looks like $14 to $19**
- **Prices for top beef—steady until spring**
- **Plan on higher corn prices ahead**
- **Soybean prices also may be higher**
- **Milk production rise may cut prices**

FARM OUTLOOK FOR JANUARY

Big discounts on heavy hogs

Expect large discounts on heavy hogs for the next 60 to 90 days. During recent winters, 240- to 270-pound hogs have sold about a dollar a hundred lower than 200- to 220-pound weights. Heavier weights were discounted more. Before putting on extra weight, figure cost of added pounds, and realize you may sell the 220 pounds you now have for less. Then decide by what you think the market will do.

Pigs farrowed in November and December should make good money. Same for January and early February pigs. You can afford to lose some sleep at farrowing time in order to save the *extra* pigs that may mean the *difference between profit and loss*. If you can buy some small, but thrifty, pigs worth the money they have a chance to make good profits for you.

Winter farrowings, which have increased sharply in each of the past 2 years, may be about the same as last year. If there is no marked increase in farrowings this spring, prices next fall will probably equal or exceed those of the past few months.

Price outlook as of now: Top prices seem likely to range between $14 and $19 through most of 1956.

Different beef-price pattern

Cornbelt farmers were feeding 25 percent more cattle on October 1 than they were one year before. The larger count reflected holding back in feedlots more than it did any general increase in *total cattle being fed*.

Price outlook now: Prices of beef cattle may average about the same in 1956 as during the last 9 months of 1955, but with a much different seasonal pattern.

- Top prices seem likely to hold near recent levels until next spring.
- A substantial advance is probable during the summer and early fall.
- Prices of cows and other cheap cattle are expected to work a little higher during the next 4 or 5 months, and then decline during the summer and early fall.

Sheep moving east

Government statistics show that sheep production is gradually moving from range to farm flocks—from west to east.

Numbers of stock sheep have increased about 19 percent in the eastern Cornbelt and 26 percent in the western Cornbelt in the last 5 years. The increase in the Mountain and Pacific States was only 3 percent; South Central region lost 14 percent.

Help for corn prices

Late reports added a few bushels to the 1955 corn crop, but not enough to weaken prices.

Actually the 1955 crop was not much bigger than the 1954 yield. That's because quite a bit of 1954 corn was fed in the fields and this quantity never showed up in the official crop estimates.

Also, more corn may be sealed this season than last, limiting market and feeding supply, and strengthening prices.

Soybeans look better

After all the gloomy things you have heard about soybeans, the 1955 crop was only 8 percent bigger than the 1954 outturn.

The whole crop can be readily used here at home and abroad at better prices than the recent lows. Increase in exports alone will take care of the production increase.

Milk tide rising

Dairymen have been doing pretty well pricewise, compared to other producers. The U.S.D.A. gave away a big portion of the surplus.

Now some little black clouds are again appearing. Production is going up. Milk flow may rise to a flood tide of more than 125 billion pounds this year. To hold the price line, consumption gains must be maintained, and increased.

Quick tips for January

- Here are 6 ideas for making more money from crops. Consider them now.

1. Treat seed corn with dieldrin to kill soil insects. Costs only a few cents an acre. Can be put on in powder form when you get your corn. Follow directions on container. Watch coming issues for details.
2. Add Ladino to your green-manure mixture this year—it boosted corn yields 28 bushels the following year in one Iowa test, has shown up well in Ohio tests, too. Ladino tolerates acidity, is inexpensive. Buy seed soon, add 1 pound per acre to the mix you're now using.
3. Want to try grass silage this year? Have a bulldozer push up 6- to 8-foot walls of soil alongside feedlot. Pack with first-cutting grass silage. You may want to floor and line trench next year. Reread "Think before you dig," Page 44, April 1955 *Successful Farming*.
4. Think about relationships of fertility, planting rate, and hybrid variety before corn-planting time. If you're getting soil built up in some fields, you definitely want to consider boosting planting rates to 14,000 to 16,000 stalks per acre. That's about 4 stalks per hill, or 4 stalks every 3 feet in 40-inch drilled rows.

Then before you buy your seed, make sure the hybrid you buy will yield at that fertility and population. Some good old numbers that do well at 60-bushel fertility seem to hit their ceiling at around 90 bushels per acre. Some hybrids begin to pour out the corn only at high fertility.

5. Call your local custom spray operator and tell him to plan on spraying your permanent pasture with 1 pound of 2,4-D (ester form) per acre about the first of June. It will get most of the tougher pasture weeds this year—will knock out buckbrush if repeated 3 years.
6. Make some long-range plans for improving efficiency of your fields this winter while you have some time. The S.C.S. can help. It's amazing what can be done by relocating fences, filling ditches with a bulldozer, and making two fields into one. If you can't make fields bigger, at least make them long. Where practical, run fields to farmstead, eliminate lanes, cut time running to and between fields. You can get more done per hour in the field, farm more acres, make more money.

- Cut chore time and work now while you're spending a high percentage of your time around the farmstead. Think about what you're doing while you're working. If you retrace your [*Turn to page 14*

IT HAPPENED *On the Farm*

Mrs. Klosterman says, "We've never had such even, trouble-free heating as we get with STANDARD Furnace Oil. And Standard Oil Agent Leslie J. Bossman sees to it that the tank *never gets empty!*"

"After two years, the filter is still good as new!"

"You wouldn't think that this filter was ever used," says Joseph W. Klosterman of Richland County, North Dakota, "but all the furnace oil used to heat our 7 room house for the past two years has gone through it. We have *real winters* in North Dakota and when the temperature drops below zero and snow drifts pile up, days might pass before a service man could get out if our furnace stopped. That's why we started using **STANDARD Furnace Oil** with STA-CLEAN* when it first came out, 2 years ago. We put in a new filter at that time and it's *still* good as new. It really *stays clean* with STA-CLEAN!"

A clean filter means that the burner nozzle is clean, too. That's why STANDARD Furnace Oil gives such steady, trouble-free heat. STA-CLEAN also protects storage tanks from rusting.

"14 years of comfortable, dependable heat with STANDARD Heater Oil!"

"I like STANDARD Heater Oil because it burns clean," says Mrs. Elmer Griggs of Hancock County, Iowa. "We always have ready heat with never a worry about burner failure." Yes, STANDARD Heater Oil is refined under rigid Standard Oil Company specifications—gives maximum heat units per gallon with easy lighting for safety in cold weather. Use it in space heaters or furnaces requiring a No. 1 fuel—in pig and chick brooders—water heaters, too. Mrs. Griggs says, "My Standard Oil Man sees to it that we stay warm as toast, all through the heating season."

Don't risk burner or delivery failures this winter. Get prompt, dependable delivery of either* STANDARD Furnace Oil *with* STA-CLEAN *or* STANDARD Heater Oil, *whichever is preferred in your equipment.

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You expect more from STANDARD and get it!

QUALITY PRODUCTS • FRIENDLY SERVICE • DEPENDABLE DELIVERY

YES! WE GET MORE MILK and SAVE WORK

Mrs. Litsey is only one of hundreds of users who say they **get more milk** and **save work.**

"We're milking cows out clean in 3 to 3½ minutes with our Globe Milker that took 10 to 12 minutes by hand. Cows are giving more milk and seem to like the Globe Milker as well as we do",—report the Litseys of Illinois.

Double Unit for larger herds

The Globe Milker has proved easier to use . . . easier to clean . . . easier on cows. Unequalled for gentle, **1-2-3-4 Rhythm Milking Action** (patented) that keeps cows contented and giving down more milk. Not one, but hundreds of good dairy farmers report that their **Globe Milker has cut milking chores in half.** Single and double milking units for any size herd.

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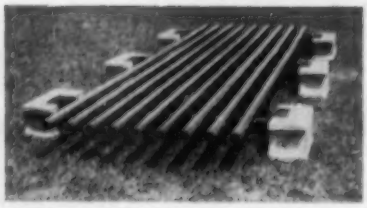
WHAT'S NEW IN FARMING®

Tips you can use today

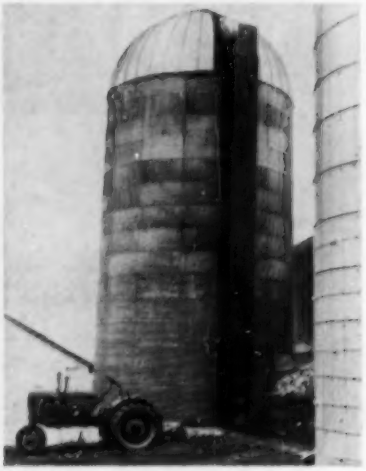


Cattle guard. Unit is made of 4′ long I-beams with 2″ pipes laid on top, held apart by spacers welded between. Sturdy angles are welded to ends of beams for supporting unit on concrete piers. Pipes are loose for easy removal.—*Kleme Pipe Structure Co., Greensburg, Ind.*

Electrical system waterproofer. Clear plastic spray in aerosol can is easily sprayed over tractor electrical system in 5 minutes. In company tests, 75 percent of tractors not protected with spray were delayed during damp or wet weather. —*Krylon, Inc., Norristown, Pa.*

Tree row cultivator. Made with a blade 5″ wide and 2′ long for scooping, raising, turning over soil, this machine can be mounted in about 5 minutes.

Turned in one direction, blade pulls soil away from tree; turned in other direction it makes ridge to conserve moisture. —*Orville Hill, Ree Heights, So. Dak.*



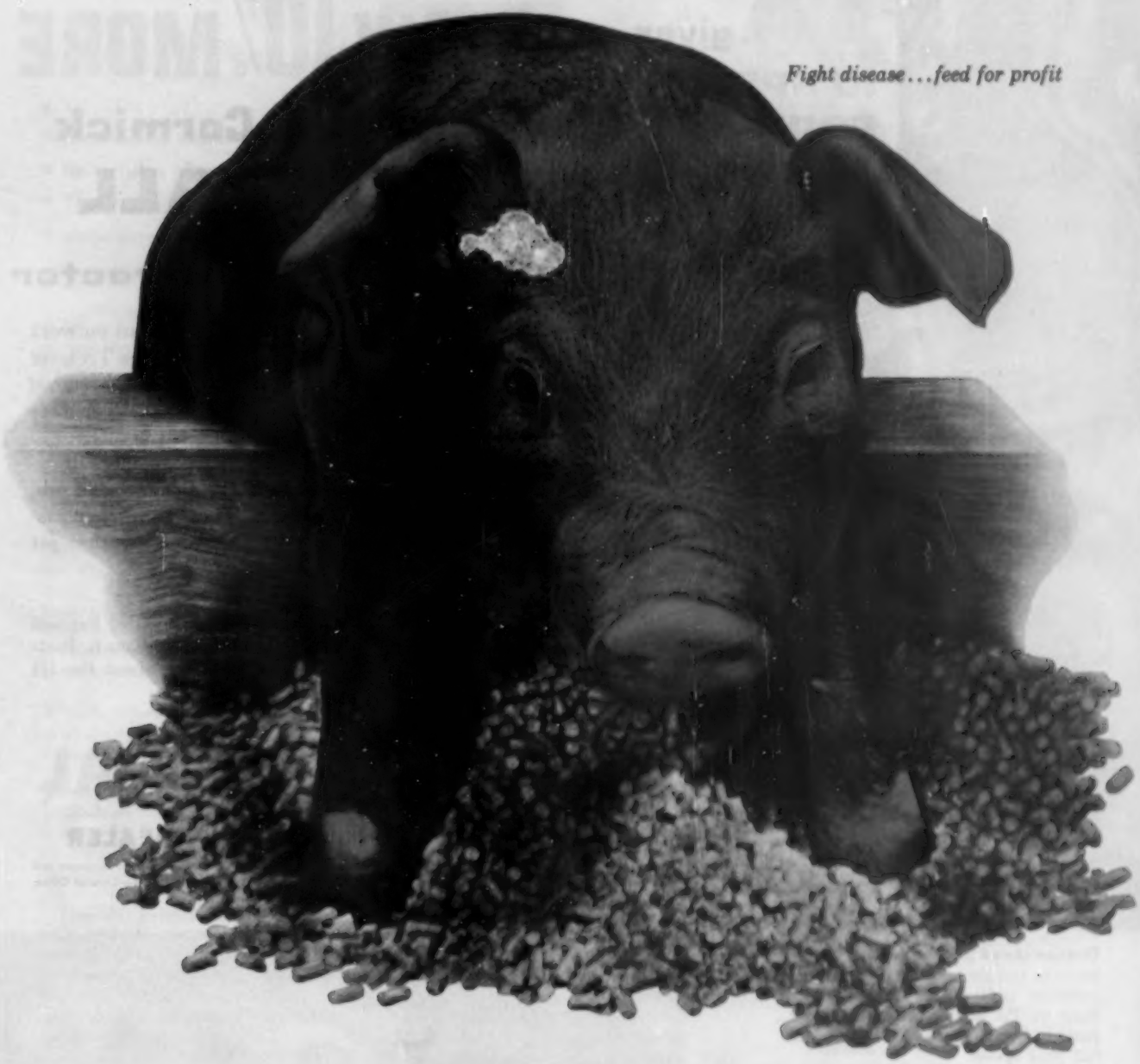
Vertical elevator. Its 53 steel buckets carry grain at rate of 3 buckets a second past hopper, which is set in concrete. Gearbox is 5-1 ratio.—*American Planter Co., 200 Front St., Burr Oak, Mich.*

Fiberglas bulk tank. Molded one-piece cabinet is plastic-fiberglas, requires no painting, cannot rust, leak, nor peel; makes tank 300-500 pounds lighter.—*Engelke Engineering, Inc., Slinger, Wis.*

New carrot this year. For the first time in many years, a carrot has merited selection by the All-America Committee. It is named Gold Pak and we quote from the description released by the All-America Selections:

"Gold Pak carrot brings a new conception of beauty and shape in this appetizing vegetable. Longest and most slender of any table carrot, richest orange inside and out, Gold Pak makes colorful appetizers whole or sliced, cheers up any mixed salad. Creamed, candied, simmered, boiled, sliced in soups, in molds for carrot rings, served with celery or peas, juice saved for brown sauce, Gold Pak has many table uses. It is sweet and tender at all stages of growth."

When do they need a High Level feed?*



Even with the best management it is practically impossible to keep harmful bacteria from entering a baby pig's digestive tract. Sometimes they simply keep pigs from gaining as well as they *could* gain. At other times (usually after a stress or upset) they multiply with fantastic speed to cause scouring, setbacks and losses.

That's why high disease-fighting levels of antibiotics (from 50 to 200 grams per ton of feed) are especially important in pig-starting rations. Thereafter use a high-level feed at any sign of disease (such as scouring or a fall-off in feed consumption) and to *prevent* disease at time when resistance is lowered (after chilling, vaccination, rough handling).

Terramycin not only gives you the fastest, most effective action against scours-causing bacteria, it gives you the fastest, most consistent gains of any antibiotic. It makes you extra profits while it protects your pigs.

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BRAND OF OXYTETRACYCLINE

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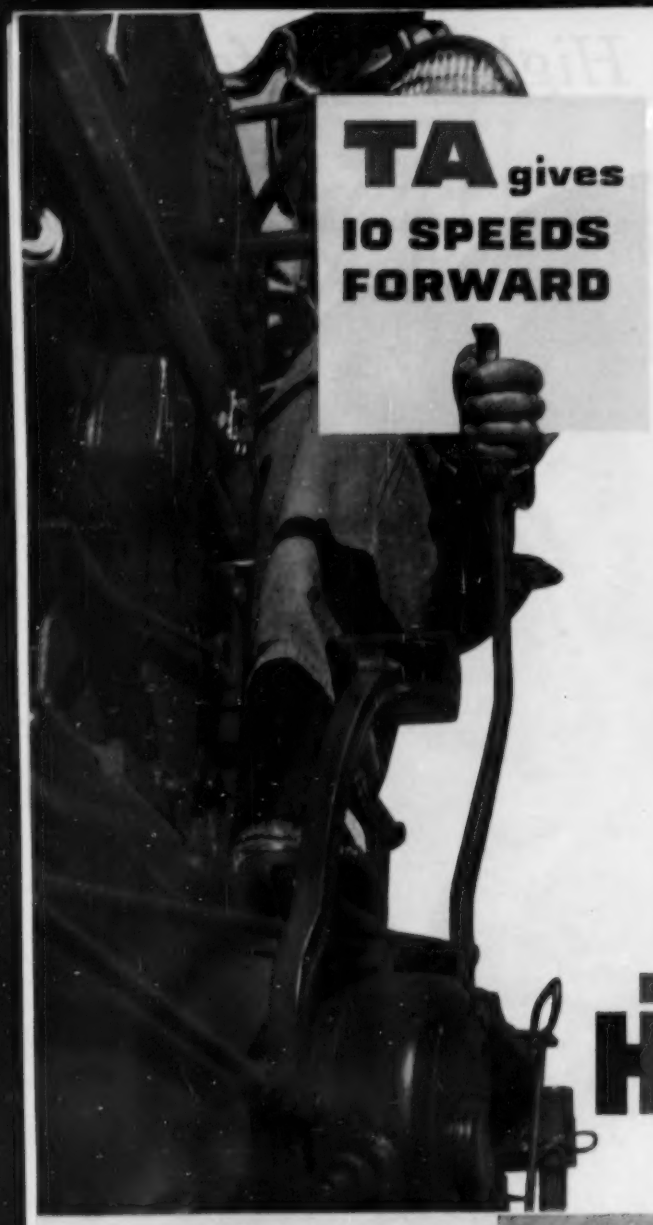
World's largest producer of antibiotics; supplier of many of the health and growth-promoting ingredients that make today's fine feeds the best ever blended.



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FRIEND TO FRIEND

- **Blowing off steam can be silly**
- **No surplus of good tree acres ahead**
- **The needs of our schools are pressing hard now**
- **Have you ever tried persimmon pie? Elderberry soup?**

● Freedom to **blow off steam** often makes folks silly who take advantage of the privilege. Some of the **farm testimony** (so called) given before Senate and House committees has been **an insult** to the poor men who were forced through courtesy to listen. Bold ideas which might even be labeled "crackpot" were wanted. Certainly there was no excuse to show off personal irritation or "smart-aleck" stuff.

Future hearings could be more productive if the general area of discussion were clearly outlined in advance. Then organized presentations would be possible from individuals. As a rule, farm organizations have given excellent testimony for their ideas on farm programs.

● While certain **farm surpluses** grow into a national issue, **some shortages** grow more acute. I refer to **timberland** products. I am deeply interested because 60 percent of the country's commercial forest lands are in individual farm holdings. It's time for bold action to make timber raising more attractive to farmers and local industry. It isn't going to be an easy job.

Happily, timberland serves many purposes. (1) It can be a good source of **annual income.** (2) It protects soil and watersheds. (3) It provides recreational facilities of which we are already critically short. (4) It forms a basis for local industry and employment.

Merciless hacking down of good timber at any price the owner can get has already placed a heavy mortgage on future generations and ruin on present owners. I have recently reviewed tree-growing conditions in several of our best Cornbelt states. They are horrible examples of blundering in land use. But there are some fine state and national forests. There are also good instances of individual **farm profit** from well-managed woodlots. And we don't need to wait a lifetime for results from trees!

● Sometimes I am accused of grinding an old grist. My critics think my desire for **greater speed in school reorganization** one place where I offend. Most of them will admit we are living in a new age but they refuse to think about its effect on young people and their problems of meeting life's discipline. They are still arguing about the consolidation job we thought had been finished back in the '20s.

It's perfectly clear to me that a **new consolidation job** awaits immediate action. Let's review the mistakes of the '20s and not make new ones this time.

Local and personal pride and fear of increased taxes should not blind us to our needs. Protect farm real estate against excessive tax loads. Then respond to the desire of every normal parent to get for his children the best in education. And don't forget your own opportunity in a good school to increase your knowledge of farming and homemaking. **Adult education** is sweeping America. Farmers need it as much as any group.

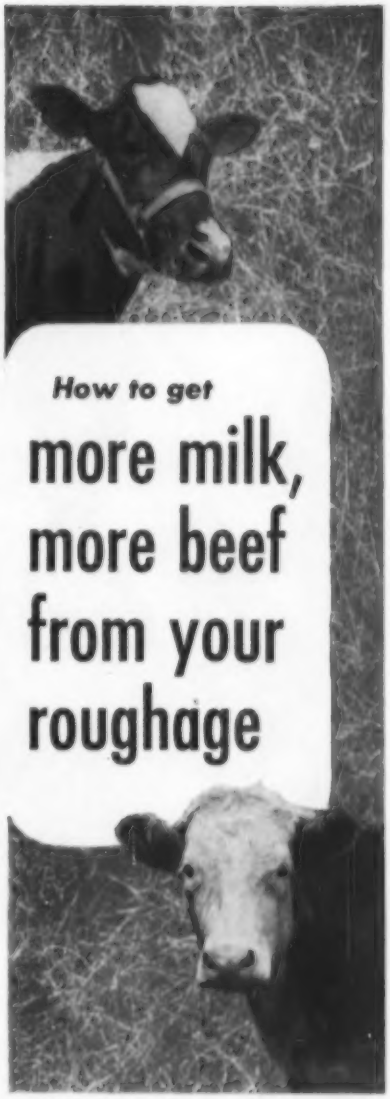
Recreation and community affairs will thrive in a good school. Who doesn't thrill at the sight of the scrappy home basketball team winning a tough game! Of course, a good high-school band puts spirit into every game. And in recent years I have enjoyed many pleasant evenings in the school at farm and home-community affairs. Yes, I'll grind this school grist over and over until the majority of rural boys and girls, and their folks, have a good school.

● **Persimmon pie** and puddings are delicious but few wives have tried making them. I would like to hear about other local fruits which make a good change in your year of routine food preparation. My mother-in-law made fine **elderberry soup** with dumplings. I hope my daughter will keep that recipe and use it when such wild fruit is available.

As a child on a prairie farm, I hunted wild strawberries, plums, and grapes. Our wild crabapple, although bitter, was delightful with a heavy sweetening of molasses. **Pawpaws, black cherries,** and other wild things should not be entirely forgotten by modern homemakers.

● This month we are putting special emphasis on **milk production per acre.** In Illinois last fall I was specially interested in the work at Dixon Springs to increase **beef production per acre.** It's an angle of farm management likely to grow more prominent.

Kirk Fox



To get full value from hay, silage and other roughages, a good job must be done by the rumen bacteria—the "bugs" that help cattle break down and use all kinds of home-grown roughages.

That's why Du Pont "Two-Sixty-Two" feed compound is so valuable in beef and dairy supplements. It furnishes urea nitrogen that nourishes and stimulates rumen bacteria.

As the "bugs" convert "Two-Sixty-Two" to protein, they multiply faster and work harder. More of the feed value locked up in fiber is released to produce milk or make beef.

Check with your feed man. Be sure your supplement contains "Two-Sixty-Two"—to help you get the best efficiency from the roughage you grow.

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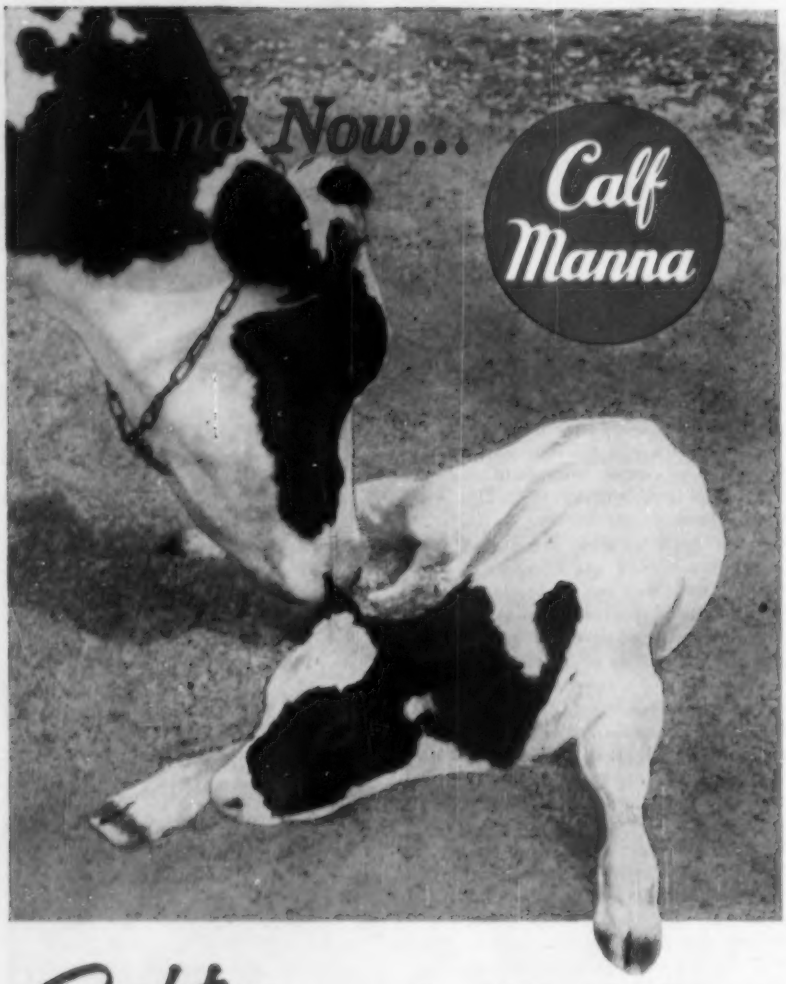

Right From the First Day!

It will take 18 to 24 months of careful feeding and management to put this hour old calf into the milking string. That feeding and management starts now–*right* from the first day.

The sooner you get a calf on dry Calf Manna the better. Calf Manna practically eliminates scours and other digestive troubles. It saves 55% of the labor in feeding calves. Calf Manna saves up to 1/3 of feeding costs to 4 months (up to $9.00 per calf) compared to 10 other leading Calf Feed programs. Calf Manna encourages the development of a big rumen in the calf so the animal can make use of inexpensive roughages within a few weeks.

EASIEST CALF FEEDING PROGRAM

1. Start feeding Calf Manna right from the first day.
2. After one week on colostrom feed Albers Suckle until the calf eats 1 lb. of Calf Manna daily.

When it's results that count—count on Calf Manna-Suckle.

ALBERS MILLING COMPANY

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Quick tips for January

From page 8

steps to turn off a light, carry a scoop back, or check the water tank, you're wasting time.

Solve with 3-way switches, hang extra scoops or pitchforks *where they're used*, get a cart on wheels, move feeders closer to mow or granary, pipe water where it belongs, and put in automatic waterers and water heaters with *automatic controls*.

Put in cattle guards and ramps where you waste time carrying stuff over sills, opening too many gates, or climbing fences.

Get your wife to watch you doing chores. You'll see needless work easier when you know someone's watching you. Then check *her kitchen* work habits.

- Inspect all machinery for repairs, make a list of parts needed, buy them on one trip to town, then fix. If needed parts aren't in stock, they can be ordered before you need the equipment—it'll save you time during the busy season.
- If you're feeding poor-quality roughage—there's lots of it in drouth areas—watch for Vitamin A deficiency. Symptoms are blindness or staggering. A Vitamin A supplement is so cheap you can't afford to take a chance if you're in doubt.
- Check price of molasses in your area—it may be cheaper than corn or you can use it to get cattle to eat poor-quality hay. If 6½ gallons is cheaper than 1 bushel of yellow corn, buy molasses. Remember that *there is no protein in molasses*, you must supplement. You can feed it to hogs, too.
- Here's a really low-cost gestation ration for your gilts and sows—all the corn silage they can eat plus 1½ pounds of protein supplement per sow per day. Purdue University got 2 more pigs per litter on this cheap ration than on a grain gestation ration. But *don't forget protein*.
- Get pens and farrowing stalls cleaned and disinfected for early litters of pigs. Check heat lamps for frayed wires, loose connections, and so on.
- Do a rough estimate of your income tax before January 1, to see if you need to buy or sell something in 1955 to save tax money.
- Did your 1955 record book give you all the information you need for figuring income tax? If not, make changes now for '56 record keeping to fill the gaps. Remember, every dollar of business expense you fail to record costs you 20 cents in income tax if you're in the *lowest* tax bracket.
- If you plan to use your own seed for small grains or forages this spring, you'd better get a sample sent to your state seed testing laboratory for a germination test within the next week. Otherwise, if the germination is so low you need to buy other seed, it may be too late to get the variety and quality you want.

Take samples at two or three depths at four or five different places in the bin. Mix these samples, send in about a quart of small grains and bromegrass, or a cup of alfalfa or other small seeds.

MORE Growth PER BAG

than any other nitrogen fertilizer

Arcadian® UREA 45 contains the most nitrogen per pound of fertilizer that you can buy in a bag. And it's all high-quality urea nitrogen. Each 80-pound bag contains 36 pounds of actual nitrogen. That's 900 pounds of nitrogen per ton. High-analysis, free-flowing, quick-acting and long-lasting, UREA 45 is everything you ever wanted in a nitrogen fertilizer.

This concentrated 45% nitrogen fertilizer gives your crops the growing power they need quicker, easier, with less work and without waste. It's ideal for all application methods. There's nothing like UREA 45 for supplying growth power to crops. It's a labor-saver any way you use it—by fertilizer spreaders, in irrigation water or by airplanes.

Quick-acting ARCADIAN UREA 45 dissolves rapidly in soil moisture and feeds crops fast even in cold soil. UREA 45 spreads throughout the root zone, speeds rotting of crop residues into nitrogen-rich organic matter, and feeds crops well. UREA 45 gets corn, small grains, pastures, fruit and vegetables off to a fast start.

Long-lasting ARCADIAN UREA 45 ties itself to the soil particles to supply nitrogen throughout the growing season. UREA 45 resists leaching and stays put through rain and irrigation. Your crops get the bulk of this nitrogen at the stage of heaviest growth when they need the most nitrogen. You get the maximum in growing power with UREA 45.

Free-flowing pellets of concentrated ARCADIAN UREA 45 give you the most versatile dry nitrogen ever developed. UREA 45 feeds crops continuously and leaves no harmful soil residue. Non-explosive, easy to handle and store, UREA 45 is the ideal nitrogen to order now for early delivery. Use UREA 45 to make crop profits come alive!

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Ask your dealer for these high-nitrogen ARCADIAN products for profitable farming: **ARCADIAN UREA 45,** the most nitrogen you can buy in a bag; **ARCADIAN 12-12-12,** the modern fertilizer that makes crops make money; **ARCADIAN Nitrogen Fertilizer Solutions,** the easy way to make crops pay.

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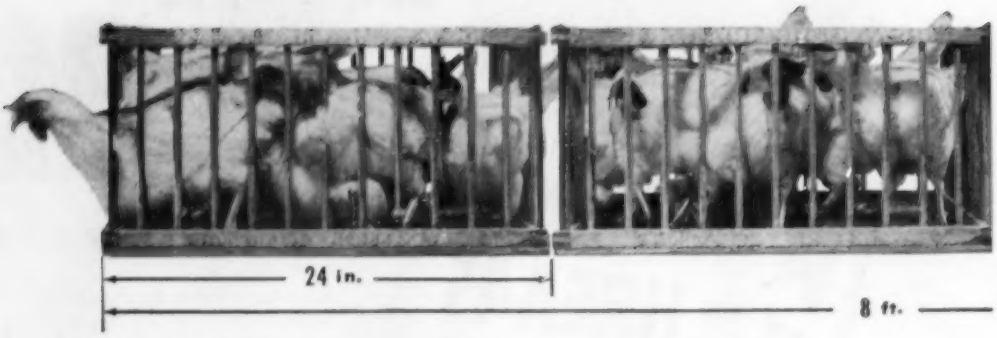


NOW! Four chicken crates

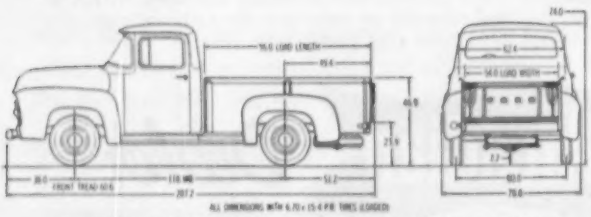
Most horsepower per dollar ...plus exclusive Lifeguard Safety features

The new Ford Pickups for '56 give you more of everything you want in a good farm Pickup.

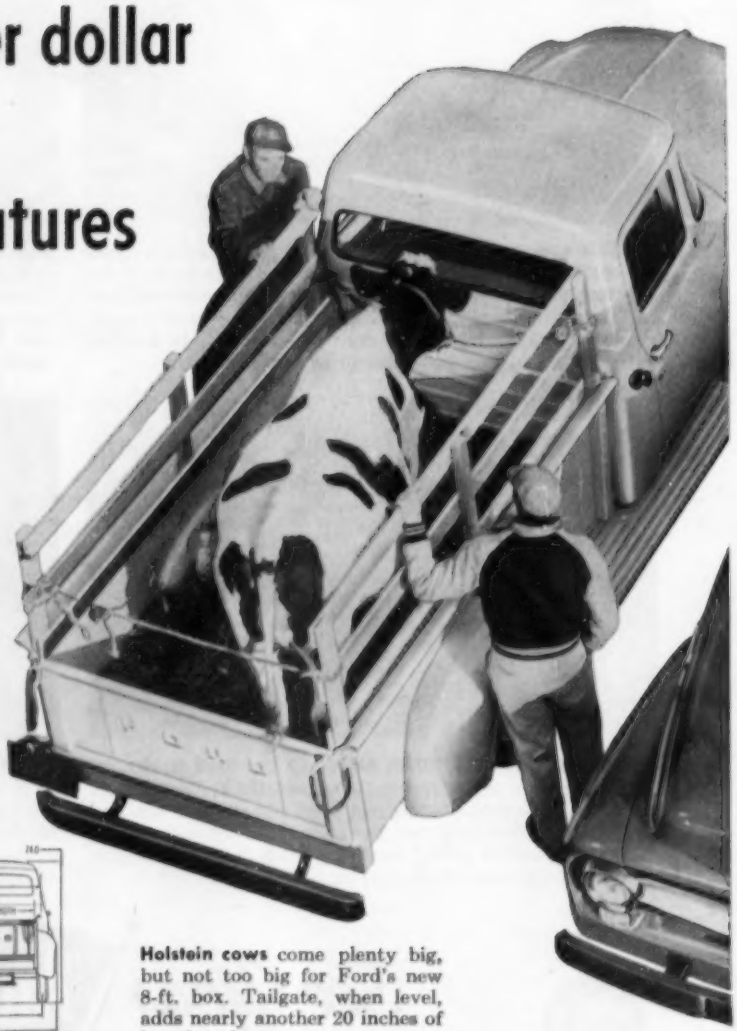
More capacity, for instance, in the biggest box on *any* half-ton truck. The '56 Ford offers a 65.4 cu. ft. box, a full 8-ft. long, which sells for just a few dollars more than the standard Ford 6½-ft. box.

The new Ford Pickup delivers more horsepower per dollar than any other Pickup—proved by comparison of net horsepower and suggested list prices of *all* pickups. *And only Ford gives you modern Short Stroke* power in your choice of either a Six (133 h.p.) or Y-8 (167 h.p.) engine.

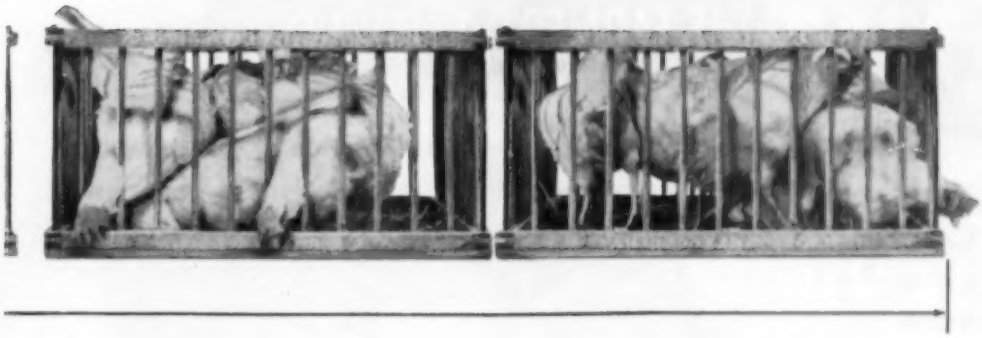
Only '56 Ford Trucks give you exclusive Lifeguard safety features. New *Driverized* Cab has a full-wrap windshield for better visibility, safer driving. There's more style, more comfort, more handling ease . . . more of everything you want, in the new Ford Pickup for '56.



Ford's new 8-ft. box is mounted on a 118-in. wheelbase chassis, as shown above. Standard 6½-ft. box, also available, is mounted on a 110-in. wheelbase.



Holstein cows come plenty big, but not too big for Ford's new 8-ft. box. Tailgate, when level, adds nearly another 20 inches of length to box.



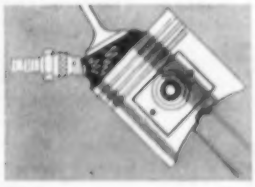
long! Biggest box on any half-ton truck!

Exclusive Lifeguard safety features!

New Deep-Center Lifeguard steering wheel helps protect driver from steering column in case of accident. Only Ford has it!

New Lifeguard door latches give added protection against doors jarring open on impact. Only Fords have 'em!

Short Stroke power at no extra cost!



Only Ford offers Short Stroke design in your choice of either a Y-8 or 6-cylinder engine. Shorter stroke means less piston travel. This in turn means less friction which leads to less wear, longer engine life *and* greater gas savings.

Fordomatic Drive* can pay for itself!

Fordomatic cuts maintenance costs. There's no clutch to repair, and the oil-filled torque converter acts as a "shock absorber" for the entire power train. It boosts getaway power, *saves time*. And man, what a treat it is to drive with *Fordomatic!*

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OBSTRUCTIONS
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Dr. Naylor Dilators are medicated protective dressings for the teat canal. Contain SULFATHIAZOLE — this medication in the Dilator is released slowly in the teat for prolonged antiseptic action directly at site of trouble.

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THE FARMER'S WASHINGTON®

- **Agriculture will get top consideration by Congress**
- **Soil-bank, compensatory-payment plans gaining now**
- **Controls may be on bushels and pounds, not acres**

By John Harms

More money for agriculture. There is a silver lining to farming prospects in the new year—even though the full impact of the spectacular 1955 production season may not yet be felt.

Whether you think it wise in the long run or not, the bright side is your guarantee of *all-out* government assistance in 1956. There now is no shred of doubt that we are about to see one of the greatest—if not *the* greatest—eras of federal agricultural participation in the nation's history.

With Congress coming back to Washington early this month, you can expect agriculture to get No. 1 consideration. Almost without exception, farm state lawmakers plan to push for more *cash*—although just how much or how it should be spent will be debated high and wide.

But, from the evidence, it's going to take a lot of work to get an "adequate" program. Secretary Benson, as well as the entire administration, is on the hot seat. It's his job to advise Congress what to do. He'll have to come up with a strong program, or take the tremendous risk of riding the farm economy to disaster with a program that is "too little and too late." This is the view of some top government policymakers.

Two programs gaining. When Congress begins work, two highly controversial proposals will get increasing official attention. One, the soil-fertility bank, has an excellent chance of being adopted in some form. The other, compensatory payments, may find more success this year than you'd think following years of derision as part of the old Brannan Plan.

With reported approval of the 18-man National Advisory Commission, a soil-bank idea may be recommended by Mr. Benson to Congress. But U.S.D.A. opinion still is divided as to whether it should be a voluntary program with payments, or forced through a tie-in with price supports similar to cross-compliance. A voluntary program has strong congressional support. Minnesota's Senator Humphrey sponsored the key bill last year with similar ones offered by Congressmen Johnson of Wisconsin, Knutson of Minnesota, Polk of Ohio, and others.

Compensatory, or production, payments are being advocated increasingly, at least for a limited trial. Now in effect on wool, serious consideration will be given in official circles to payments on dairy and other livestock products. Under this approach, the government would pay you the difference between a set "fair" price level and the average market price for a particular commodity.

Both of these approaches, significantly, have been endorsed by the nonprofit, nonpolitical National Planning Association. The N.P.A. suggests both be tried on a "test" basis at least. The N.P.A., thus, takes a stride in the direction of the long-standing Farmers Union position which calls for a voluntary Conservation Acreage Reserve (soil bank) and production payments at 100 percent of parity as part of its over-all program.

Bushel controls coming? The record 1955 farm production—it's as big as the tremendous 1948 output—is likely to have greater impact on the new year's production than on prices for the 1955 crop. Here's why, according to U.S.D.A. officials:

Prices for the 1955 crop won't change much from present low levels. Down some probably, but nothing drastic. But your production will have to be held down like never before if we're to prevent more surplus pile-up and possible general market collapse next fall.

The U.S.D.A.'s production officials are acutely aware of what may happen if we have near-ideal weather this year. They aim to put controls on the heart of the problem—*yields*, which zoomed an average 9 percent above the 1948 record. The most stringent control program is being seriously considered—*bushel and pound controls*. Under this, farmers would be told exactly how many bushels of wheat or corn, and pounds of cotton they could grow on each acre. Cross-compliance also is being dusted off again.

Need better crop reports. The Agriculture Department's entire crop-estimating service is in for a thorough going-over by Congress this year. Serious doubt as to accuracy has been thrown across the entire setup by the so-called cotton "fiasco." These reports affect market prices.

On cotton this year, the Crop Reporting Board started with an August forecast of 12.7 million bales for 1955. In the months following, the board jumped its forecast successively up to 15 million—an extraordinary 2-million-bale boost. Also, soybean production forecasts in 1955 were too high, prices dropped, and many farmers sold beans too cheaply.

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BIGGER and BETTER CROPS

Make More Money in 1956!

TEST YOUR SOIL

Get Up to 200 Bu. Corn per Acre
100 Bu. Wheat • 5 Tons Hay • 30 Tons Tomatoes
750 Bu. Potatoes • Up to 300% More Milk

Yes, you can make more money this year—with a Sudbury Soil Test Kit. More bushels per acre are more important than crop prices! For example, you get nothing for the first 40 bushels of corn—they just pay your costs. All your profit is in the extra bushels—the higher your yield, the more you make!

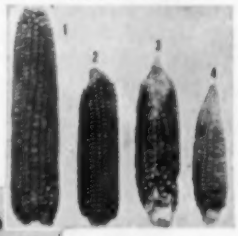
EXTRA BUSHELS EXTRA TONS FREE

The bigger crops you get by soil testing really cost you nothing. Taxes, labor, seed, machinery costs, etc., all stay the same, but your income goes way up! Every $1 you spend on fertilizer will bring back up to $10 or more. Increasing crop yield can actually give you six times as much profit!

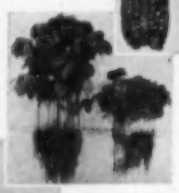
An Ohio farmer boosted corn yield 300%, oats 500%, wheat 100%, hay 300%, with his Sudbury Soil Test Kit—*so can you.* Even the first day's use will pay for your Kit many times over!

TESTED FERTILE SOIL BRINGS BUMPER YIELDS

Far sighted farm leaders, agricultural colleges, experiment stations, and other soil scientists have conducted thousands of field trials that prove the amazing benefits of correct soil fertility. To produce the healthiest highest yielding crops, phosphate, potash and nitrogen must be supplied in proper balance. Too little or too much may cause weak, stunted plants and poor yields



Corn Ear 1 was grown in balanced soil. Nubbins 2, 3 and 4 were from soil that lacked nitrogen, phosphate or potash.



Beans—The vigorous healthy soybean plant at left produced heavy yield, more nitrogen nodules. Poor soil fertility caused stunted plant at right, low yield, little soil improvement.

Fertilized Correctly | Needed Potash | Lacked Phosphate | No Fertilizer

10-Fold Increase in Wheat

These wheat tests show yields increased 10 times with proper fertilizer. Note vigorous root system, lush heavy top growth at left. Where not enough potash was used, yield dropped 8 bu.; insufficient phosphate cut yield 19 bu. per acre.

Save Up to $15 an Acre on Fertilizer

Don't waste money on wrong fertilizers, or overdoses of lime. A Pennsylvania farmer "guessed" he had to spend $700 for lime but tests showed not a single field needed any; some already had too much. He not only saved $700, he got better crops too!

Easy As Reading A Thermometer

NO KNOWLEDGE OF CHEMISTRY NEEDED—So simple anyone can use it. In only 10 minutes (no samples to mail, no waiting for reports) you'll know just how much *nitrogen, phosphate* and *potash* your fertilizer should contain. Also how much lime is needed (pH). All for less than 10c a test!

Farmers deLuxe Soil Test Kit

Complete with everything you need for hundreds of tests. More valuable than all your stock and tools! Heavy duty, lifetime welded steel chest with carrying handle, weighs only 12½ lbs. Easy to follow instructions show needs of 225 different crops. Big value, only $29.95.

SEND NO MONEY

Order today and we'll mail C.O.D. plus postage. Or send check and we'll pay postage, saving you $1.91 to $3.55 in postal charges.

Easy Payments if desired (see coupon below)

FREE BOOK Valuable book on farm management, "Our Land and Its Care" included free with all cash orders.

Better Crops Guarantee

If you don't get bigger yields this year, send your Kit back this fall and we'll refund your money—that's Sudbury's Daring Guarantee!

FREE TRIAL Even after 10 days use, you can return the Kit if not delighted.

Now You Can DO IT YOURSELF

450,000 Users Grow Bigger Crops

E. L. M., Ohio—"best purchase I ever made was a Sudbury Soil Test Kit. In our orchard it has paid for itself many times. Knowing what and when to feed your trees means greater profit and savings in fertilizer."

C. R. D., Penna.—"just bought land adjoining our farm and tests will save us many times the cost of Kit. We felt it would need lots of lime but it didn't, so will spend our money on needed phosphorus and potash."

A. F. B., Iowa, increased his bean yield 50% by correcting phosphate and potash deficiencies his Sudbury Kit revealed.

W. L. D., Penna., saved $400 on fertilizer. "The Kit has paid for itself over and over again. "That's real satisfaction!

A. D., Indiana, nearly doubled his corn yields after testing his soil. He also gets 30% more wheat and soybeans per acre.

C. L. B., Mich., says "With our Sudbury Soil Test Kit we quickly found a lack of potash in our orchards."

Hardware, Seed, Grain, Fertilizer Other Farm Stores—Supply This Essential Aid to Better Farming

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World's Largest Makers of Soil Test Kits!

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☐ Enclosed is $29.95; send postpaid and include free book, "Our Land and Its Care."

☐ Send C. O. D. only $29.95 plus postage.

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R.D. or St. .....

P. O. ..... *Zone* .... *State* .....

☐ Send on Easy-Payment Plan—I'll pay mailman $4.95 plus postage, then 4 monthly payments of $6.75 each.

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from $4.49

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SPECIAL HOOK-RING ATTACHMENT FOR EASY ONE-MAN MEASURING

SUCCESSFUL FARMING REPORT

"Protective milk"

gives immunity to disease

"Protective milk" might be another major step forward in man's never-ending struggle to conquer disease.

Two University of Minnesota researchers announced recently the results of almost 10 years of study which have led to their "protective principle in milk."

They are convinced their new principle will immunize human beings against such diseases as streptococcal infections, measles, smallpox, diphtheria, tuberculosis, and others. They also believe their "protective principle" will apply not only to diseases caused by viruses and bacteria but also to those which result from certain molds and fungi, pollen, and dust.

Possible polio protection. The two men also believe, on the basis of their research to this time, that it will be possible to immunize against poliomyelitis through the drinking of protective milk.

Dr. William E. Peterson and Dr. Berry Campbell are the men who have developed the new theory of immunizing men and animals against a wide range of diseases.

A pilot herd of cows is now being established to test on a larger scale the conclusions reached thus far. The American Dairy Association is providing the funds to carry out the present stages of experiments and testing of the protective principle in milk.

Work began in 1946. In their experiments, which began in 1946, the two men injected vaccines for disease-causing viruses and bacteria into the udders of cows. They learned that the cows will manufacture large quantities of antibodies to the injected material.

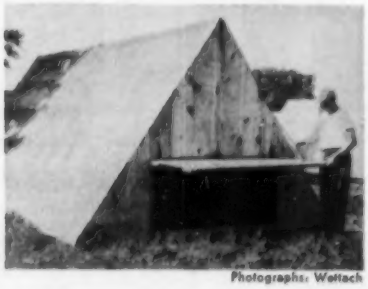
Vaccinating the cows, in other words, would make it unnecessary to vaccinate human beings who consume the stipulated amount of protective milk. Passive immunity would be maintained in the person drinking the milk as long as he continued to consume it.

Milk remains unchanged. The production of immunity factors in the cow's milk does not alter the composition of the milk or make it unnatural or abnormal milk in any way. No disease-producing organisms are introduced into the milk.

Various processing techniques have been tested on the protective milk. The milk can be pasteurized and dried without destroying the immunity factors. Through these techniques, they say, it will be possible to provide protective milk to the public without any changes in current bottling, manufacturing, and distribution practices of the nation's dairy industry.

Considerable work remains to be done before the protective milk principle will be made available for public use.

New style hoghouse



Photographs: Wettach

"This A-type hoghouse fits in well with large-scale hog raising and year-round use of much equipment," says Bernard Frye, Scott County, Iowa.

The house is 12′ wide, 20′ long, and 8′ to the ridge, which has an open space 3 inches wide. "This open space," he says, "ensures ventilation and prevents moisture or frost from collecting in the house."

The house is mounted on 4x6 skids, laid flat, with 4x6 crosspieces at both ends.

Front door is divided. When upper half is open, sow gets ventilation, yet pigs are kept in. At opposite end, a low, wide door (2½′x6′) allows better air circulation in summer. Corrugated iron roofing is nailed to framing.

Make your grain worth more the PURINA CHECK-R-MIX way

It takes the right concentrate and a top-quality mixing service to get peak production from your home grains. Only the Purina Check-R-Mix Dealer can give you:

- ***Micro-Mixed Purina Concentrates.***
- ***Formulas tested and backed by Purina Research.***
- ***Mixing accuracy certified by Purina engineers who have set the quality pace for over 60 years.***
- ***Management and Sanitation Programs proved at the Purina Research Farms.***

CHECK-R-MIX

The low-cost way to get more money

Beef producers, you have probably already found that grain will go farther and produce more beef when ground and balanced with Purina Steer Fatena. Many feeders report getting as much gain from 600 lbs. of grain and 100 lbs. of Steer Fatena as from 1,100 lbs. of grain alone.

Many feeders today prefer to feed rations with stilbestrol to get the added gains and economy. Only a teaspoonful of stilbestrol must be distributed through *seven tons* of ration. You can be sure of results when you take your grain to a Check-R-Mix Dealer to be ground and mixed with Purina Steer Fatena. Steer Fatena is Micro-Mixed for accurate blending of the micro ingredients. *Then your Check-R-Mix Dealer gets his own mixing accuracy checked regularly by Purina Research to make sure the Steer Fatena is properly mixed with your grain.*

Milk production at lower cost per can becomes a real possibility on many grain-producing farms, with the new Check-R-Mix service. Your Purina Dealer grinds your grain and mixes it in proportions of about 300 lbs. to 100 lbs. of Purina Bulky-Las.

Bulky-Las is a bulky feed—and cows really love it. Yet Bulky-Las often costs *less* per bushel than the grain in the ration! Because Bulky-Las is body-building, it can be used for dry cows as well as milkers. Ask your Purina Dealer to mix up a ration something like the following one. When your cows build up to 350 lbs. fat per year, *your Check-R-Mix man will add Purina Cow Chow Concentrate to the mix for still higher production.*

150 lbs. corn and/or milo
150 lbs. oats and/or barley
100 lbs. Purina Bulky-Las

THE PURINA WAY TO MAKE YOUR

200,000,000 bags of Purina Concentrates used by Purina Feeders stand back of this new grain-mixing service

for your big grain crop...

Eggs are money to you farm wives. And extra eggs mean extra profit dollars. Your Purina Check-R-Mix Dealer has the Purina Chowder Concentrate and mixing formulas to get those extra eggs. Purina feeders sent us 1,033 records last year showing that their hens had laid 3 dozen eggs apiece more than the U.S. average in just four months.

Purina Chowder is Micro-Mixed so all the small but important ingredients are thoroughly distributed. *Here is one of the Purina Research-approved formulas your Purina Check-R-Mix Dealer uses to make top-grade laying mash out of your own grain.*

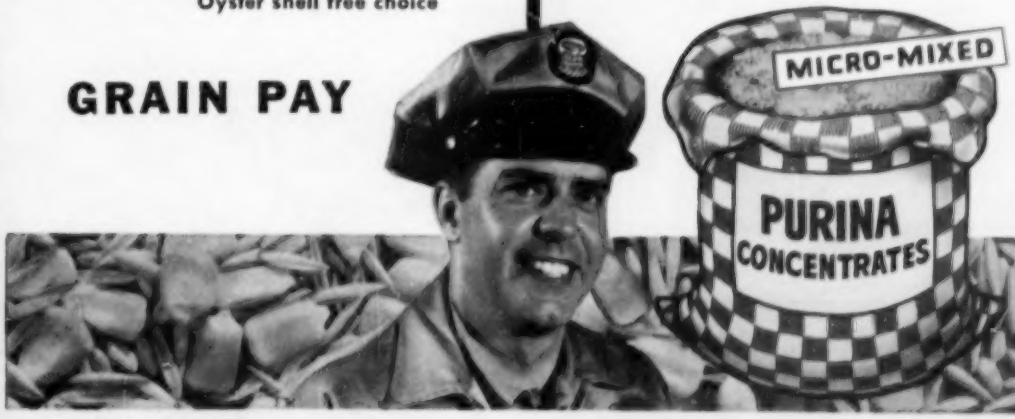
200 lbs. corn and/or milo
100 lbs. oats and/or barley
90 lbs. Purina Chicken Chowder
Oyster shell free choice

Pork production must be geared to efficiency for maximum profits. Hogs fed on Purina Check-R-Mix formulas should put on gains with only one-half the feed it takes when straight grain is used. Even if you are now using a single protein supplement, you should be able to save one-third on your feed by going to Purina Hog Chow.

Purina Check-R-Mix Dealers are equipped to take your grain, grind it just right for hogs, then mix it with just enough Purina Hog Chow Concentrate to make those low-cost gains you must have for profit these days. *Here is one of the Purina Research-approved formulas they use:*

600 lbs. corn and/or milo
100 lbs. Purina Hog Chow Supplement

GRAIN PAY



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AUREOMYCIN Soluble is your best answer to the problem of "scours" in calves and pigs. With this powerful but gentle antibiotic, you can attack the disease *immediately*. It dissolves quickly and completely in water, milk or milk replacer.

Keep a supply of convenient, easy-to-use AUREOMYCIN Soluble on hand ready for instant use. And for individual doses, AUREOMYCIN Tablets are economical, handy and effective. See your veterinarian, druggist or feed dealer. Write for free literature.

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AUREOMYCIN
Chlortetracycline

Buying a bulk tank?

Here's what you need to know

If you're thinking of buying a bulk milk tank, here are points to consider.

Which type of tank should you buy—sweet water or direct expansion?

In the *sweet water, or ice bank*, machines the refrigerating coils are in a reservoir of water where they make ice. Water is then circulated over the ice and around the tank to cool the milk.

The sweet-water tanks use smaller motors, compressors, and condensers than the direct-expansion tanks because the machine can take longer to build up the ice used to cool the milk. The compressor may run 8 hours to build up enough ice to cool one milking. Because of the smaller motors, the ice-bank machines are more likely to run satisfactorily on the wiring you now have in your milkhouse.

In *direct-expansion* machines, the refrigerating coils are right in the wall of the tank and cool the tank directly. So, the machinery must be big enough to get rid of all the heat taken from the milk *while the milk is being cooled*. Hence the bigger motors, condensers, and compressors. The machine will not run as long per day.

Also, there are two ways of cooling the condensers—air and water. In hot weather, water-cooled condensers are usually more efficient and thus take a smaller motor than an air-cooled condenser on the same size tank of the same kind. More direct-expansion machines are water cooled because of their bigger motors than the sweet-water machines. The water-cooled machines are more expensive and must be hooked up to your water system—so if you get one, make sure you have enough water and that it isn't too hard or corrosive.

Some farmers like the air-cooled condensers because they use that heat to help keep the milkhouse warm in winter. Good ventilation in the summer can increase the efficiency of the air-cooled condenser. Air-cooled condensers are usually more trouble-free than water-cooled ones, but water-cooled machines cost less to operate in hot weather.

Now as to comparative costs of tanks. Most records show that the sweet-water and direct-expansion machines will cost *about the same over the years*.

It comes out like this: The sweet-water tanks, with their smaller running units, cost less, and installation charges are lower. However, they cost more to operate than the direct-expansion units.

Before you buy a tank, check how it will fit in your milkhouse. Some machines are longer than others, some wider, some higher. The refrigeration unit is separate from the tank, but connected, in most direct-expansion systems (hence the higher installation charge). The sweet-water tank is manufactured in a complete unit. These different shapes and arrangements affect how they will fit in your milkhouse.

Remember too, that you've got to get it through the door or make another hole into the milkhouse.

When you buy a tank. The tank will be installed for you. But you'll need:

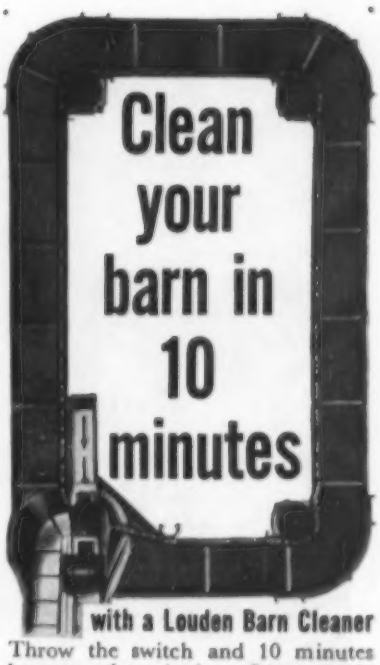
1. Adequate wiring. You may have to rewire, especially with direct expansion.
2. You'll need hot and cold water under pressure from a hose for cleaning.
3. An all-weather road to the milkhouse for the tank truck.
4. A floor strong enough to support the tank, with a foundation deep enough to prevent frost heaving (which would throw off the tank calibration).
5. Room to get around the tank for cleaning. Leave room for pouring milk into the tank. Consider a two-level floor, or a ramp, to save lifting in straining milk. If your milk is hauled away in cans, your tank will have to be high enough to fill the cans or perhaps you may want to provide a well-drained pit in the floor.
6. Added heat in winter if you have a water-cooled machine. You may want to insulate the milkhouse walls. Make sure you have good ventilation in summer if you buy a machine with an air-cooled condenser.
7. A special opening in the wall for the suction hose to pass through may be needed. Check with your milk inspector.

Size of tank. The manager of the Rochester, Minnesota, cooperative dairy recommends a tank big enough to hold twice your highest production per day, plus 10 percent. If you're going to expand your herd, get a tank big enough to take care of the milk from the extra cows.

Another recommendation is 100 gallons of capacity for every 10 cows in Holstein or mixed herds. If production is 400 pounds or better, figure 8 or 9 cows per 100 gallons. For Guernseys or Jerseys, figure 12 cows per 100 gallons of capacity.

Pennsylvania State University authorities recommend you buy a tank that will hold six milkings or 3 days' maximum milk production. They figure that over the lifetime of your tank, your herd may grow larger. Most tanks are made of stainless steel, will last many years.

The figures above are for every-other-day pickup. For everyday pickup, the common figure is a tank big enough to hold three milkings at the flush season. Reason for the space for an extra milking in each case is to have a place to put the milk if the truck is late, as in bad weather.



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Throw the switch and 10 minutes later your barn is clean. Litter neatly deposited in spreader outside. Louden Dual-Unit barn cleaner elevator travels at 55 ft. per minute . . . fast enough to get liquids as well as solids. Load is conveyed at gutter level to separately powered elevator. No uphill pull to cause chain-strain. Louden Dual-Unit cleaner is rugged, powerful, fits any barn, easy to install.

Send for free illustrated folder also showing low cost Louden Electromatic chainless type cleaner.

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If you want the *best*, see MALL *first*. Again, MALL has brought out a new development that means a bigger chain saw value for pulpwood and timber production, woodlot, fence post and cordwood cutting. MALL has combined the high speed *Direct drive* gas engine with the new Snap-on Roller Bearing Nose Guide—a combination that speeds cutting without frictional heating and gives up to 20% more usable horsepower. Try it in your own timber; write for FREE demonstration.

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After this wire is woven and passes final inspection, the end of each roll is painted red, so you can see at a glance that it meets our high standards of quality.

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Save tax money

on condemned land

New highways, municipal lakes, and similar public uses of land are biting into farm land in many areas. That raises an income tax question—how do you report income from the sale of land taken by condemnation or sold under threat of condemnation?

When your property is taken or purchased for such purposes, the income tax law calls it an *involuntary conversion.* In other words, your property has been converted to another without your consent or choice.

The amount you receive is generally more than you paid for the land, so you have a profit or gain which you must report for income tax. So:

- If you put that money in the bank or use it to buy property *that is not similar to farmland,* you must pay a capital-gains tax on the profit. You report the gain—your selling price minus the price you paid—and pay tax on half of that profit.
- If you buy replacement acres or another farm, the tax on your profit is postponed until you sell the new acreage or farm. There are three limitations:

1. You must pay the same or a higher price for the new property. If you pay a lower price than you received, you must report the difference as a capital gain in your next income tax return.
2. You must make this reinvestment before the end of the year following the year in which you received the money.
3. The new property must be similar to that condemned or sold under threat of condemnation.

- If you sell under threat of condemnation and decide not to reinvest the proceeds of the sale, you can save tax costs by using an installment contract so that your gain may be reported over a period of years. In such cases, you can't receive over 30 percent of the purchase price in the year of sale.

Winter-dropped calves worth more money

Calves that make the most money for farmers are born in January, February, and March, according to Henry Mayo, extension animal husbandman at Purdue University.

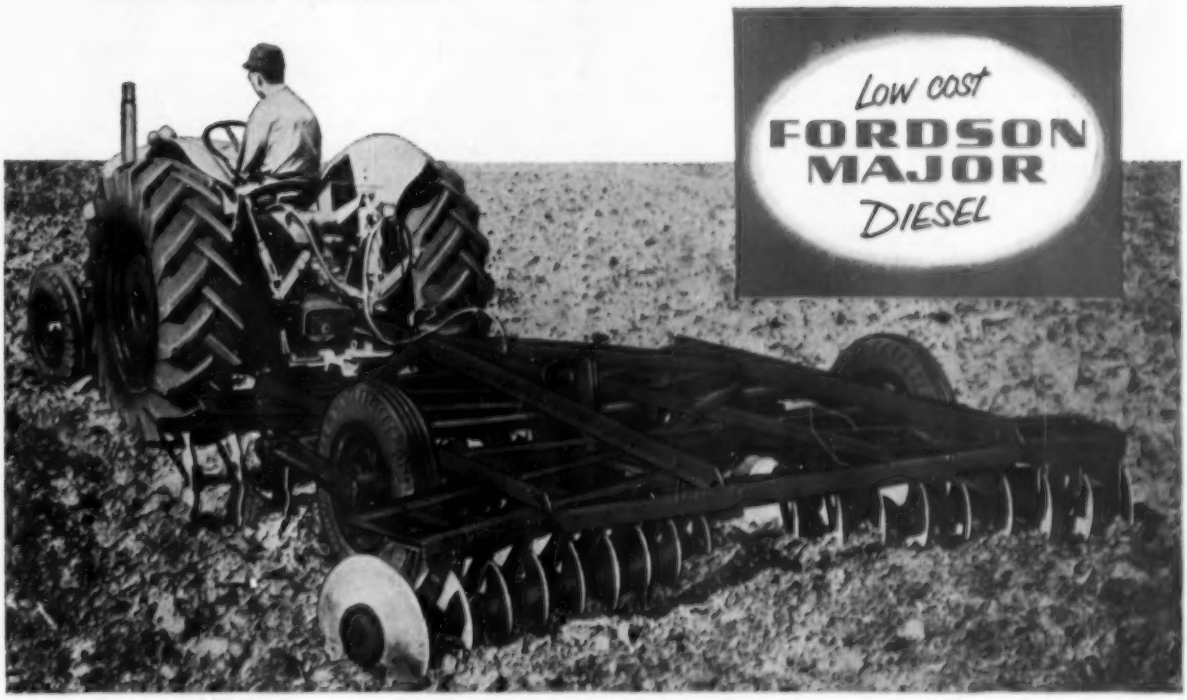
Mayo said calves are worth about $10 more for each month earlier in the year they are born. In other words, a calf born in January is worth $10 more than one born in February, $20 more than one born in March, and so on.

The reasons early-dropped calves are worth more are these: (1) Early calves are able to utilize all of the milk produced by their mothers; (2) these calves are big enough to start eating grass as soon as it becomes available.

"Saved me $500 in fuel the first year!"

says Henry Marklowitz, South Haven, Minn.

"My Fordson Major Diesel Tractor saved me over $500 in fuel the first year I used it," says Henry Marklowitz, "and that was from farming 300 acres of land. It's hard for my neighbors to believe how much I save on fuel over their tractors, but I've got the facts."



MORE POWER **—"I pulled the Fordson Major with two other tractors of different makes that are rated higher in horsepower. The Major was still pulling its load when both of the other tractors had killed their motors."**

— J. L. Coder, Elwood, Neb.

HANDLES EASIER **—"I have two other diesel tractors but the Fordson Major handles so much nicer and is so easy to start compared with the others. Besides that, the Fordson Major cost me less."**

— Elmer Elofson, Wheaton, Minn.

BETTER ON SOFT GROUND **—"It keeps going surprisingly well on soft, wet ground. I got my corn picked on time, but my neighbors had to wait until the ground froze."**

— Ralph Douglas, Broadhead, Wis.

See for yourself! Get in touch with your nearby Ford Tractor and Implement Dealer. Arrange for a try-out of a Fordson Major Diesel Tractor on your own farm, without obligation. Tractor and Implement Division, Ford Motor Company, Birmingham, Michigan.

Ford Farming

GETS MORE DONE . . . AT LOWER COST

State egg laws

—will they put you out of the poultry business?

By C. E. Hughes

After 15 or 20 years of faltering, sideslipping, and backsliding, we seem to be going places with our state egg laws. These laws are intended to improve quality, stimulate demand, and benefit everyone from producer to consumer.

Sixteen state legislatures took decisive action in 1955. Nine of these measures came as new laws, with the other seven as revisions. This rings up a total of 47 states with egg laws of some sort—leaving only Texas without one.

Why 1955 was such a big year for egg laws can be laid to at least five causes:

- Low egg prices made the producers—or their lawmakers—hope that something could be devised to give things a lift.
- The clamor of handlers who were not getting enough good eggs to meet their needs, or in some cases were wanting to curb unfair competition.
- The realization of certain industry leaders that something drastic had to be done to maintain and increase our rate of consumption, already at a record high of 415 eggs per capita.
- Some states which already had shown marked improvement in egg quality were seeking a means of protecting their markets against inferior products.
- The flock owners who were striving to produce high-quality eggs and get higher prices needed assurance that the nest freshness would be preserved.

But let's get back to earth—we still have a long way to go. Many of these laws are "on the books" and nowhere else. The authors unwittingly or deliberately left out any provision for funds to administer the law, or failed to provide for qualified inspectors to carry out the act. Several of the laws look suspiciously like barriers to keep out-of-state eggs (aside from quality [*Turn to page 70*

Here are examples of how egg laws work in several states

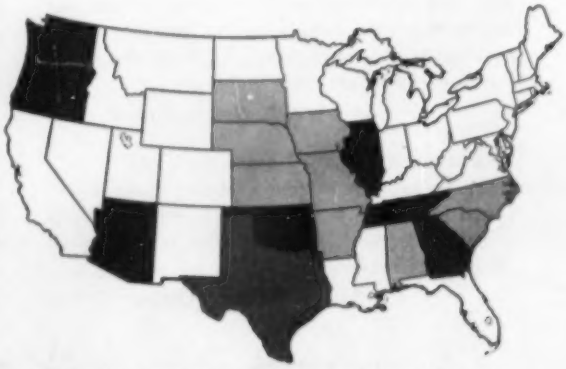
Pennsylvania: Eggs sold as fresh must meet standards similar to Grade A. Eggs that fall short of minimum requirements are sold simply as eggs, except eggs which are shell-treated. These are marked "shell-treated." Penalty—up to $50, or no more than 30 days in jail upon default of payment. Further violations, fines up to $500, or jail term.

Oklahoma: Unlabeled eggs must be sold only as uncandled or current receipts. State Department of Agriculture representatives may enter business premises to inspect. Penalty—not to exceed $100.

Nebraska: All eggs for human consumption must be held at 60 degrees or under, and with proper humidity. Nothing under Grade B can be sold at retail, except those sold by producers from own flocks. Penalty—not to exceed $500.

Iowa: The egg-grading and candling law requires that all eggs bought from producers for resale be candled and graded by U. S. standards—also eggs procured within 50 miles of the Iowa state line. Eggs for retail sale are not to be held at temperatures exceeding 60 degrees F. No eggs below Grade B are to be sold at retail, and no eggs are to be sold as "nest run," "current receipts," or "ungraded." Producer's eggs are not to lose identity until candled and graded, and any person candling eggs for first licensed buyer is to keep records for 6 months. Penalty—1st offense, $25; 2nd, $100; 3rd, $200. The court will revoke license of second offenders for 30 days, for 3rd offenders, one year.

Michigan: Eggs can't be advertised or sold as fresh if they fail to meet standards of U. S. extra. "Fresh Grade B eggs" includes those which meet specifications of U. S. quality and grading standards and which have not been under artificial refrigeration for over 45 days. Penalty—1st offense, $10 to $50; further offenses, $50 to $100, or 30 to 90 days in prison, or both.



New egg laws in 1955: Iowa, Kansas, Missouri, Nebraska, South Dakota, Alabama, Arkansas, North Carolina, South Carolina. ***Revised egg laws in 1955:*** Illinois, Oklahoma, Arizona, Georgia, Oregon, Tennessee, Washington. ***No egg law:*** Texas. ***Egg laws unchanged:*** Rest of the states.

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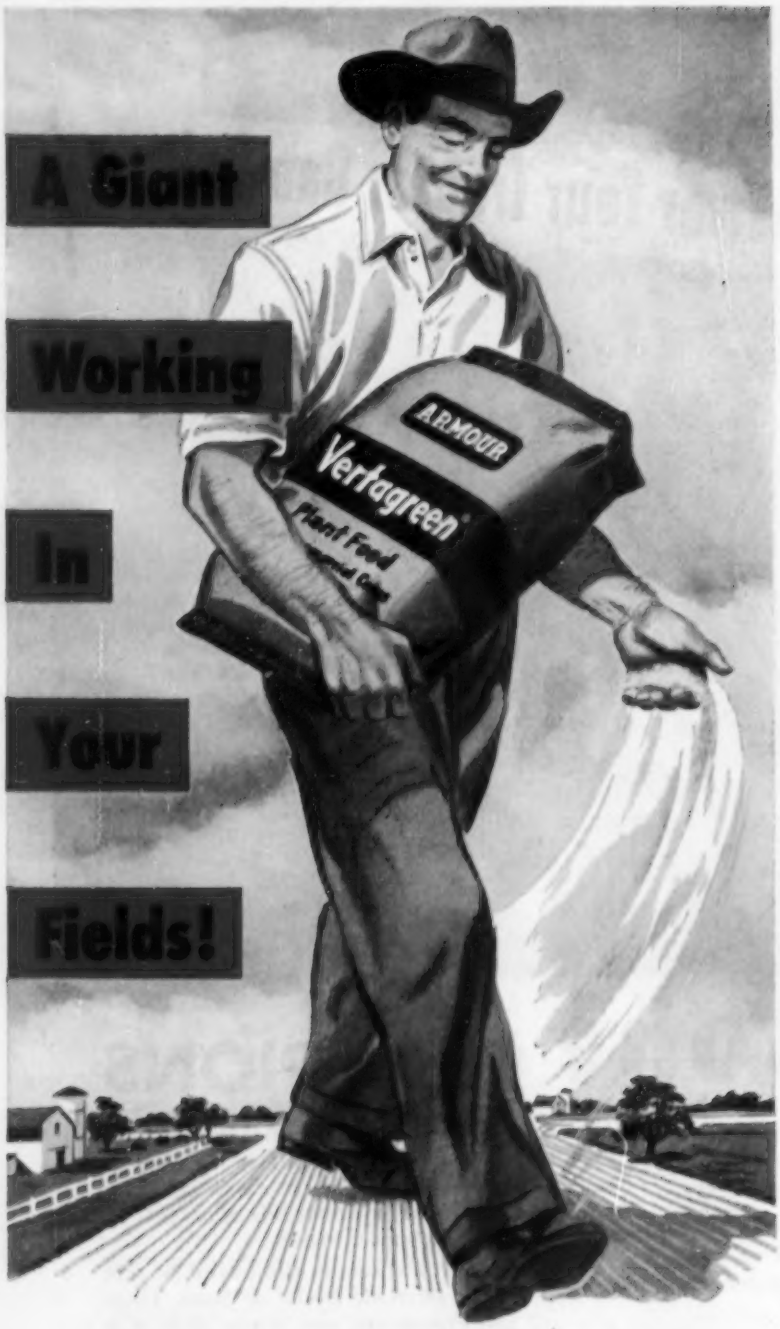

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Corn leaf aphid strikes barley

Without warning and with little precedent, the corn leaf aphid (shown below on corn) became the Number 1 pest on barley in North Dakota and the Canadian provinces of Saskatchewan, Manitoba, and Alberta last year. Other small grains and corn were attacked only lightly. In North Dakota it appeared in the Red River Valley about June 10. Most of the aphids were found on the upper parts of the plants. Severe stunting followed and this damage, along with disease and poor weather, resulted in a generally poor barley crop in that state.

Photograph: Pease

In Saskatchewan the aphid hit suddenly and hard. An estimated 100,000 acres of barley were completely destroyed; an equal area was at least half destroyed. Early fields suffered little or no damage, while the late crop was "plastered." Some 60,000 acres were sprayed, mostly with parathion or malathion. The success of treatment depended largely on the timing—when control came too late the crop was lost regardless of the degree of aphid kill.

Whether or not the story will be repeated this year is anybody's guess. If it is, this insect is one to watch in the future on both corn and small grains.

Polio isn't licked yet!

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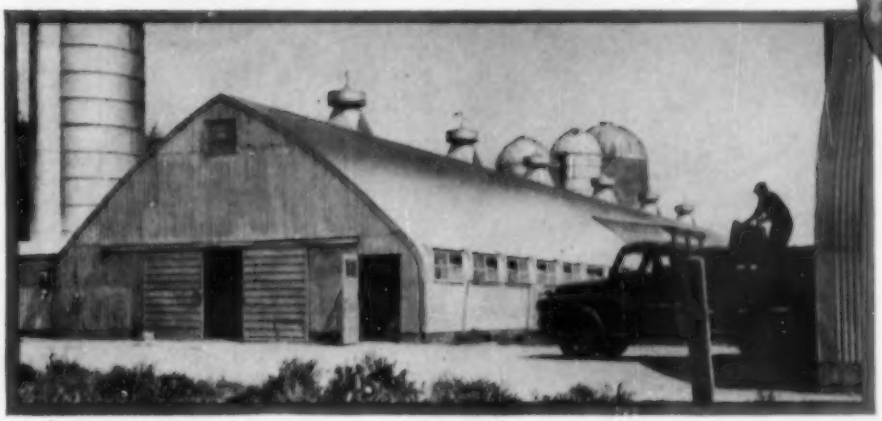
says **M. L. Janssen**, Kimberton Farms, Chester County, Pa.



The stanchion barn consists of two rows of comfort stalls. In the center of the barn is a breezeway in which hand implements and a week's supply of straw are stored. Under the breezeway are outlets for manure which is mechanically scraped from the gutters running the length of the stalls. A ramp allows a manure spreader and tractor to drive under manure outlets for convenient loading.

Exhaust fans help maintain even temperatures winter and summer, thus enhancing milk productivity. The 285 head of Guernsey Cows have a herd average, since 1948, of over 430 lbs. of butter fat on 121 head, DHIA figures.

KIMBERTON FARMS is a classic example of all-steel farm construction. Owned by Mr. H. A. W. Myrin, it embraces over 960 acres, on part of which is the Guernsey dairy installation shown here.

The dairy installation consists of the following steel structures; a 200'5" x 40' clearspan stanchion barn, a 72' x 24' shop and implement storage building, a 72' x 40' clearspan maternity barn, two 21' x 40' haykeepers and four 12' x 38' silos.

Mr. Janssen, Herdsman for Kimberton Farms, says, "In the milking barn, each cow has 1,250 cu. ft. of air space. Freedom of movement has a definite effect on milk productivity, and that's why we particularly prefer the clearspan type of construction. Also, cows suffer far fewer injuries and are generally healthier.

"Ventilation is much easier in this barn than in the old one," remarks Mr. Janssen. "Stale air pockets are eliminated . . . in the winter the barn is easily sealed against cold weather and we are able to maintain an even temperature year-round—which is certainly good for milk productivity."

Since the old barn was razed by fire, Mr. Janssen says that one of the most important advantages of steel buildings is fire resistance. He has no problem with rodents, either. And the sturdiness of the steel buildings was proved by Hurricane Hazel, he says, since it leveled several barns and many trees in the area but had no effect whatsoever on the Kimberton Farms buildings.

"Our steel milking barn is easy to keep clean, too," concludes Mr. Janssen. "Open construction, efficient gutter manure cleaners and simplicity of working area give us the cleanest possible situation. Milk bacteria count averages only 1,500."

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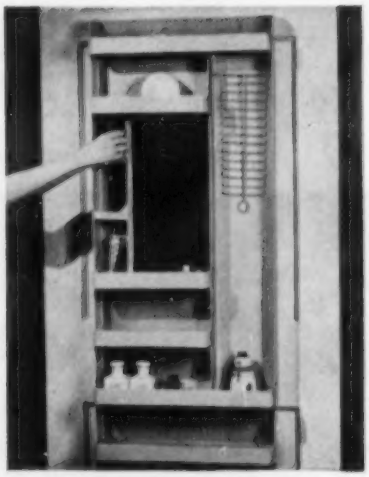

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Floor waxer—sponge with elasticized binding—fits standard mit mop holders. Order refill, $1, or with handle, $1.98, ppd.—*Jamick Mfg. Co., Brooklyn 17, N.Y.*

Cook-book rack attaches to wall cabinet bottom. Price $3.50 plus 25 cents postage. —*Amy Abbott, Inc., P. O. Box 306, Radio City Station, New York 19, N.Y.*

"Teakoe Tea-Bagger" holds suspended tea bag out of steeped tea. At department stores, $2.98.—*Ecko Products Co., 1949 N. Cicero St., Chicago, Ill.*

"Perk 'n Serve" combination coffee percolator and server goes to table without coffee grounds. At stores, $4.95.—*David Douglas & Co., Manitowoc, Wis.*

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SUCCESSFUL FARMING REPORT

Three new diseases threaten cattle industry

Three new cattle diseases are rapidly spreading through the livestock producing areas of America. Called viral diarrhea, mucosal disease, and rhinotracheitis (or red nose), these vicious diseases pose a potential threat to our entire cattle industry. Each seems to be caused by a filtrable virus.

Viral diarrhea. This disease first appeared in dairy herds of New York State and, two years ago, showed up in some beef herds of north central Indiana. This disease often strikes suddenly and without warning, and usually spreads through the entire herd, with death losses averaging 2 to 3 percent.

The viral diarrhea comes in two slightly different forms. Both have certain symptoms in common like complete stoppage of milk flow, a loss of 300 to 400 pounds by beef cattle, diarrhea, weakness, depression, and high fever. Many affected cows lie down most of the time, and some go lame.

As for differences, the New York form is less severe and causes abortions, while the Indiana type, though causing no abortions, often causes soreness of the hoofs. An animal recovering from the New York type develops a definite, desirable immunity but remains susceptible to the Indiana type. An animal recovering from the Indiana form builds up no immunity to either.

The New York type has been reported in Maine and, strangely enough, far away in California. The Indiana form, which has spread all over the state, mainly among beef herds, is strongly suspected in Ohio, Wisconsin, and Kansas.

Mucosal disease. Two years ago, in Iowa, this disease was first called to the attention of veterinarians. Since then it has spread with appalling speed, now being found from the eastern seaboard to Oregon and from Louisiana to the Dakotas. It is concentrated most heavily in the Midwest.

The disease bears a strong resemblance to pleural pneumonia that plagued the country in the 1880s and led to the organization of the United States Veterinary Division, forerunner of the Bureau of Animal Industry.

Many of the clinical or field symptoms are similar to the New York and Indiana viral diarrheas, suggesting at least a remote relationship. Infected animals have a diarrhea, fever, and a nasal discharge. Mucosal disease is most likely to appear from December to February and is more inclined to affect younger animals.

Mucosal disease differs from the viral diarrheas in that erosion of the tongue and cheeks is much more pronounced. Furthermore, death comes to 90 to 95 percent of all animals that get sick, but a smaller percentage of the herd become infected.

Rhinotracheitis. This disease (called red nose in California) is an acute infection of the anterior respiratory region (includes the sinuses and windpipe), rather than the digestive tract. This disease seems to be distinct from the viral diarrheas and mucosal disease.

It was first diagnosed in Colorado beef herds in 1950 and since has hopped into Wyoming, Idaho, Arizona, California, and Nebraska. It has spread so rapidly that officials now estimate nearly 100,000 cattle have had rhinotracheitis in Colorado alone, making it the most important feedlot disease in the state.

The resulting alarm among stockmen prompted them to organize last year the Colorado Cattle Feeders Association, with a full-time veterinarian to cooperate with the state agricultural college in fighting the disease.

When infected, an average of 17 percent of a herd will contract the disease, although cases of 100 percent have been reported. The death rate is low, probably averaging 3 percent.

Symptoms include loss of appetite, a discharge from the nose and eyes, slobbering, rapid loss of weight, fast breathing and often difficult breathing, with mouth open. Fever rises to 105-108 degress.

In some ways rhinotracheitis resembles shipping fever, but usually appears from 30 to 90 days after the animals have gone on feed, whereas shipping fever can be spotted much earlier. This disease is most likely to appear in November and December, but can start at any time of the year.

Rhinotracheitis so far has not been reported among range animals of Colorado. In fact, several instances are reported where one bunch of cattle on grain feed would become infected while a roughage-fed group across the fence

[*Turn to page 36*

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Three new diseases

From page 35

would stay healthy. At this writing, a Colorado experiment is underway to determine the effect of fattening on susceptibility, with one-half the animals on a fattening diet and the other on a maintenance ration. The cattle were inoculated with the disease organism when 40 days on those feeds.

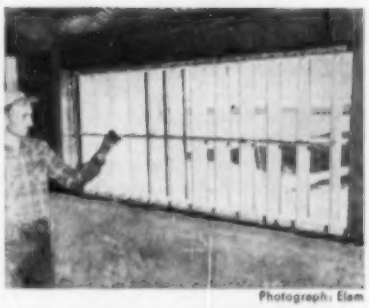
Veterinarians are not yet ready to say exactly how these puzzling diseases are spread, although they strongly suspect that contact at public sales and stockyards is one way. So far, there's no effective treatment for any of these diseases, although antibiotics in some cases have been reported effective in controlling secondary infections like foot rot.

Several meetings have been held during the past year, the latest being at Chicago last October, when veterinary authorities and livestock industry leaders from all parts of the country gathered to present the latest information and discuss ways of checking these diseases.

Cornell Univeristy in New York has a research project underway, and $10,000 grants from the U.S.D.A. have been allotted for study at Purdue University in Indiana and at the Colorado Agricultural and Mechanical College.

The preceding statements are based on observations and experiences to date. *Successful Farming* will keep you posted on future developments.

Uses aluminum barn shutters



Photograph: Elam

Aluminum in the form of shutters has been put to work in the milking barn owned by Manuel Goulart and Lawrence Mitchell of Tulare, California.

The 6½-foot-long shutter units line the walls of the barn, set with the 31-inch-long shutter blades in vertical position. Two handles on the shutter's center bar on the inside make it easy to open or close the shutter to any pitch desired.

These shutters are long-lasting, control the direction of air flow into the barn, and close off inclement weather so it is not felt within the barn.

Lubrication

cuts repair bills

Probably, the most important man in industry today is the operator of pressure lubrication equipment. He keeps costly equipment on the job and operating without major repair for years at a stretch. And farmers today are finding that high pressure and close tolerance farm machinery require the same careful greasing.

By properly lubricating machinery, farmers can save big money and make their equipment produce longer, says Eldon Glor, Hickory County, Missouri. Machinery has a high first cost. Labor prices have also boosted the cost of breakdowns for repair and replacement parts.

Glor carries two grease guns on his tractor at all times. One is a larger one-pound size which fits in his tool kit. The other is a quarter-pound gun, which he carries in a tool bucket on his tractor.

Careful greasing and oiling kept his horse mower on the job five years without replacing a pitman. Glor greased the machine after every two hours of operation. He greases his new tractor mower, which operates at a faster clip, every hour.

Glor gives his tractor the best of care. He changes oil every 100 to 120 hours, or every two weeks during the heavy seasonal work. And this calls for a filter change at the same time. He uses a 30-weight oil for summer, 10 and 20 during the winter, and always 20 for heavy use. Glor hasn't purchased a tractor replacement part in two years.

He says that grease is less costly than repair parts. Glor has two rules for keeping equipment on the job. Keep it properly lubricated at all times, and under cover when not in use.

More time spent with

Livestock

The average farm worker spends 40 percent of his time working with livestock nowadays as compared to 30 percent before World War I. This increase has occurred chiefly because more progress has been made in the mechanization of crop enterprises than in livestock enterprises and because the number of livestock has increased while cropland acres have remained relatively stable.

One advance made in mechanically caring for livestock has been in milking cows by machine. In 1950 an estimated 51 percent of cows in the United States were machine-milked. Figures by states range from a high of 90 percent machine-milked cows in California to a low of about 20 percent in the southeastern states. An average of one-fifth less time per cow is used when machine-milked than when milked by hand, according to U.S.D.A. Statistical Bulletin No. 161.

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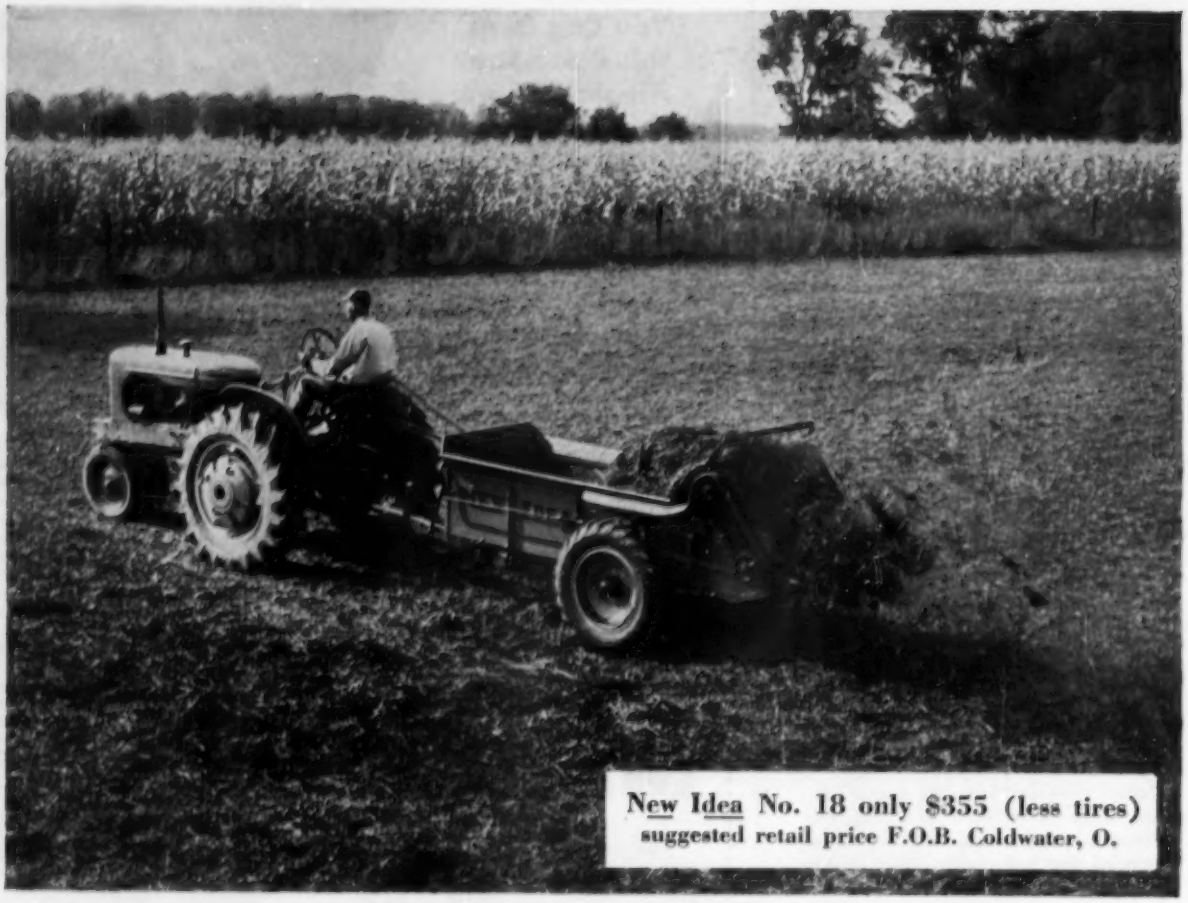

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Grand Champion spreading value. Original "widespread" distributor is improved with stronger paddles, individually replaceable. Slanted rear arch prevents plugging. Strong "A" hitch is superior to single pole hitch. New tapered, formed steel levers are stronger, the same as the big No. 17. And the same staggered "U" teeth and paddle design make the shredding and spreading just right.

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How Secretary Benson views today's farm problems

In this question-and-answer interview by Successful Farming Associate Editor Wayne E. Swegle, Secretary Benson gives you his ideas on some of the basic and perplexing issues involved in solving current farm income difficulties

Q. Doesn't our basic farm problem lie in the fact that we've been producing a total of 5 to 7 percent more than will be consumed at "fair" prices to farmers?

A. We produce more of some items than will move into consumption at prices reasonable to farmers. *Total* agricultural production this year is within 1 percent of being in balance with domestic consumption and exports.

Q. Can we reduce the size of our production plant to fit effective demand, or expand demand to fit production—in some way move production and demand more closely together?

A. As stated in the previous answer, production and consumption of most farm products are close to a balance this year. The main problem now is disposal of the surpluses acquired during the years of high, rigid support prices. Increased consumption at home, exports of food and fiber, and finding new uses for farm products will bring production and use into closer relationship over the long pull.

Q. What *can* be done to dispose of present excess supplies and prevent future buildups of farm "surpluses"?

A. Cut-backs in wheat and cotton acreages, as provided by law, will, we hope, bring supplies of these commodities into manageable proportions. We have developed agreements under the Trade Development and Assistance Act to export 600,000 bales of cotton from August 1 through December 31, 1955. Wheat exports in 1955 hit 270 million bushels—an increase of more than one-fourth over 1954. Barter agreements have been authorized and all other avenues of practical disposal of surpluses abroad are being explored.

Q. There is a growing feeling that *neither* flexible nor rigid supports is the answer to agriculture's ills. Do you agree?

A. There is no *final* answer to any of our problems. But I am convinced that flexibility of supports—just now beginning to operate—gives us an opportunity to achieve the balance in production so sorely needed. This flexibility moves us in the right direction. However, any sound farm program must be many-sided.

Q. Flexible supports became effective only recently on basics. But supports on other crops have been flexed downward over a 3-year period—what has been the effect of these reductions?

A. Very favorable results were obtained when supports were lowered on dairy products. Consumption increased and markets expanded. Surpluses of butter, cheese, and non-fat dry milk have been reduced by hundreds of millions of pounds—and dairymen are operating in a more healthy economic climate as a result. Also, non-basic feed grains are moving into consumption instead of piling up in government warehouses.

Q. Do you feel you have adequate machinery for dealing with the current [*Turn to page 79*

Wheeltrack planting started something

They discovered it! Andy Shugars (on tractor) and Jim Howe touched off one of the biggest movements in corn raising history. They now wheeltrack plant 700 acres of commercial popcorn a year

By George D. Johnson

Widely used variation of wheeltrack planting is "once-over" method being used here by George Mathews of Union City, Michigan. Ground is readied by pulling tillage tool behind plow. Corn is then planted usual way but without working seedbed. Dr. Ray Cook and H. F. McColly of Michigan State College perfected and promoted this method; pointed out early that we were overworking soils and wasting gas. Appropriately, wheeltrack developed in their state

Back in May, 1946, Andy Shugars (shown at left above) was in a hurry to get his corn in. He had a field plowed but not worked down. An idea began to grow. The field didn't look especially rough—so why not plant right on the furrows?

He tried it and it *worked!*

But Shugars saw that he needed more seedbed. Half finished with the field, he thought he had the answer. He was planting with a small tractor. Why not move the rear wheels in and let the tracks be the seedbed ahead of the planter shoes.

It was there that wheeltrack planting of corn was born.

For 3 years, Shugars and his partner, Jim Howe (at right above), who has also had a big hand in working out the wheeltrack method,

Here it is. Wheeltrack planting looks like this. Plowing should be fast and deep (8 to 9 inches) for best results. Soil moisture should be right. The planter can follow from a few minutes to a few days behind. Plant when soil is at that slightly moist, crumbly stage. Disc openers, available for many planters, give better stands than standard sled runner shoes. Shown are Harlan and Wilson Bennett, Fulton, Michigan

Photographs: Peese; Schneider

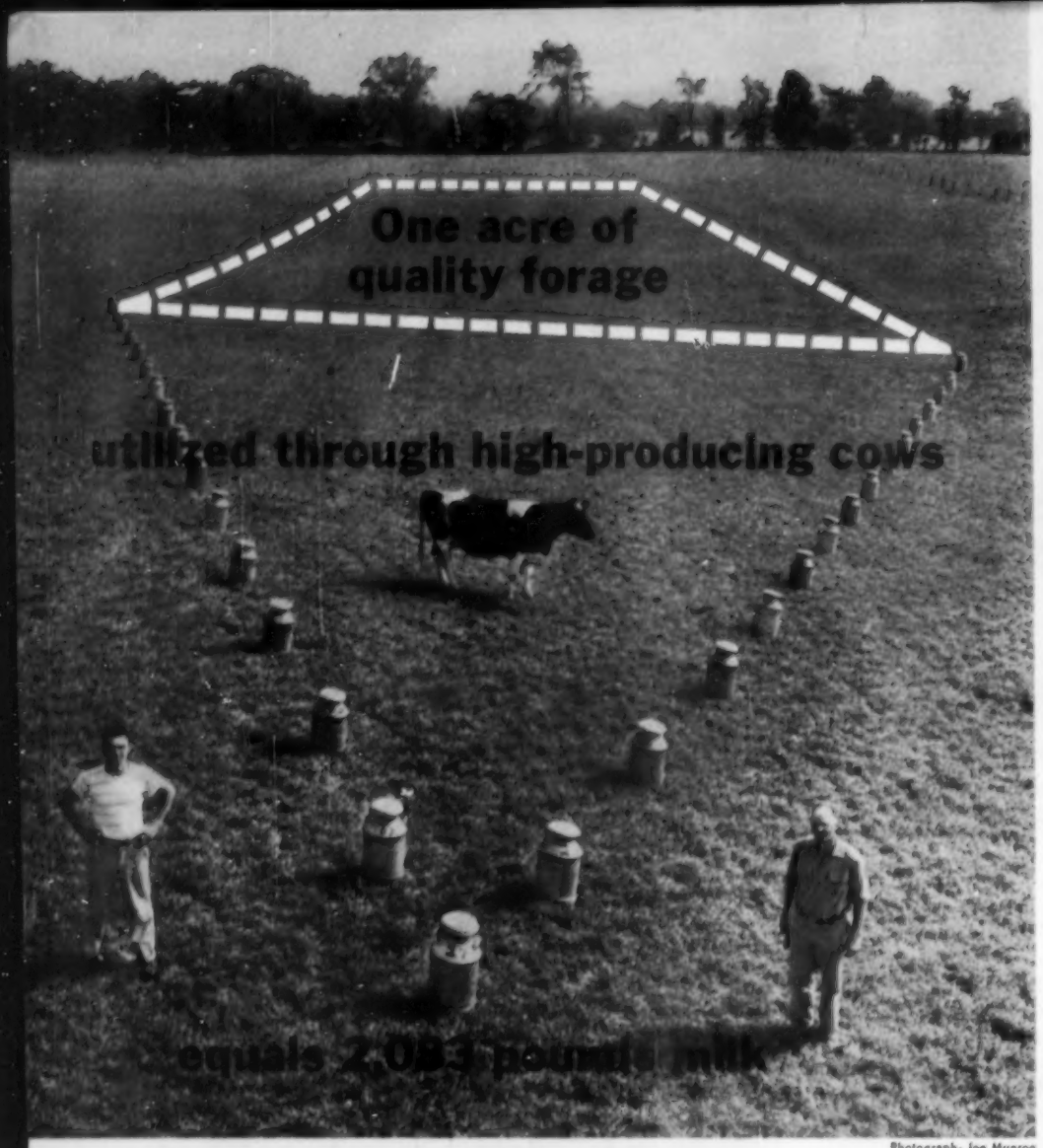
grew only a few acres of corn. In 1950 they upped their acreage, planting corn both the usual way and in the wheeltrack.

The time and money saved by the wheeltrack method hit home. Weed control was easier. They had to cultivate only once. The wheeltracked corn grew better through dry weather.

In 1951 they decided to go all out. They planted 300 acres of popcorn, all in the wheeltrack. By then, other farmers were watching them. Neighbors like George Fritz and Steve Dickerson picked it up. About then you saw the first report on it in *Successful Farming*. By 1953, several hundred Michigan farmers were planting in the wheeltrack. In 1954, reports of its being tried came to *Successful Farming* from Illinois, Iowa, Minnesota, Ohio, [*Turn to page 94*

"Rough planting." Farmer who called it this wasn't kidding. Andy Shugars took us out to part of this field, which turned up as rough as any we'd seen. And Andy ordinarily turns over a mighty smooth furrow. Tractor wheel knocked down the clods in the row and you can see the stand of corn. This is shown merely to illustrate the versatility of the practice. Actually, discing was needed

Moisture and weeds; look what happens. At left, Jim Howe points to moisture rising in the wheeltrack where it germinates the seed and keeps young corn coming. At same time, surface soil between the rows is too dry for weeds. At right, weeds are confined to the wheeltrack and corn can out-grow them. Rotary hoeing or first cultivation will throw dirt into track, catching most of these. Corn is cultivated when it is a foot tall. Howe and Shugars use springtooth cultivators



Photograph: Joe Munroe

Tear out . . . and save

This is the third of these 8-page farm service features now appearing in *Successful Farming*. Save them in a ring binder for future use.

This is the first of a series of articles on high-production-per-acre farmers. We tell you how Ralph Space and his son, Ronald (shown above), produced 2,083 pounds of milk per acre. Their experience backs up Cornell University's 8-point "package" shown at the right

It's the milk produced per acre that counts

By George Trimberger and William Ward
Cornell University

SUCCESSFUL FARMING SPECIAL SERVICE FEATURE

Production per acre

Efficiency—your best way to cut costs. The next 8 pages tell how to increase milk production per acre by 27 percent

By George Trimberger and William Ward
Cornell University

What do we mean by production per acre? It's the milk-, meat-, and egg-producing power per acre.

At Cornell University we have been studying 8 factors which influence production per acre: (1) yield per acre; (2) harvesting losses; (3) storage losses; (4) roughage composition; (5) palatability; (6) digestibility; (7) average daily consumption; and (8) milk-producing power.

On these 8 pages, you'll see the results of our studies.

Yield per acre

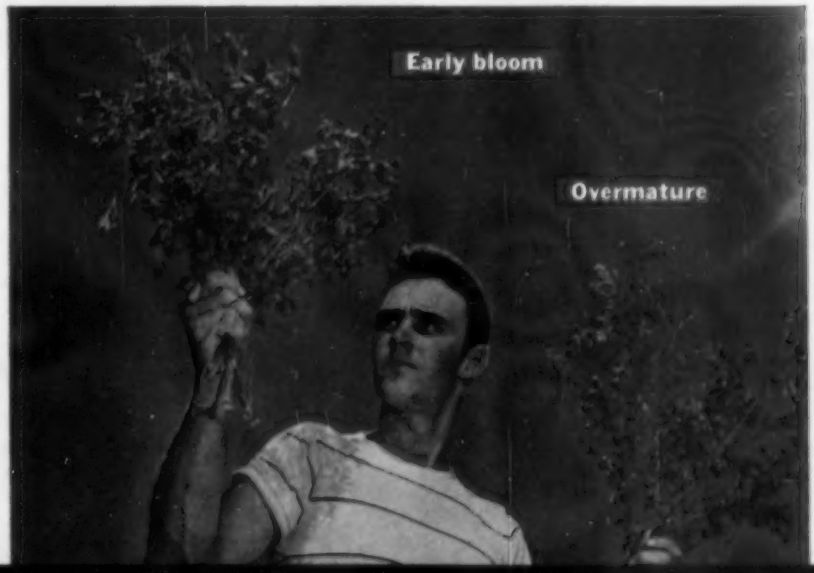
Pounds digestible dry matter per acre	2,266 pounds Over-mature forage
	2,873 pounds Prebloom, to early bloom
Pounds milk per acre	2,129 pounds Over-mature forage
	2,711 pounds Prebloom to early bloom

Best time to cut forage is in the prebloom or early-bloom stage.

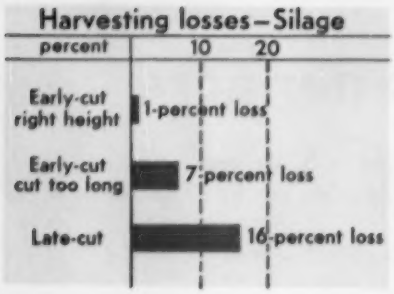
Grass silage or barn-dried hay—rather than field-cured—increases the yield of TDN per acre by 25 percent or more.

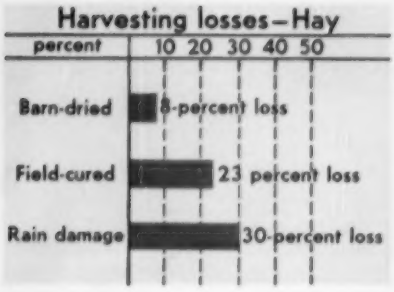
In U.S.D.A. tests, stage of harvesting influenced yields of dry matter per acre: initial-bloom, 7,896 pounds; half-bloom, 7,778 pounds; full-bloom, 6,061 pounds.

Also important is the hay required to produce 100 pounds of 4-percent fat-corrected milk: Initial-bloom, 142 pounds; half-bloom, 168 pounds; and full-bloom, 177 pounds.

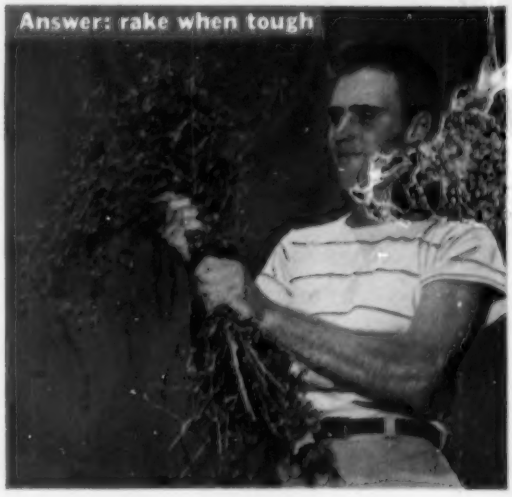


Harvesting losses





Leaf shattering


Answer: rake when tough

Most hay losses occur after forage is cut. Only about 1 percent is lost during cutting under average farm conditions.

In the Cornell test, field-cured hay has the highest losses—22.8 percent. Over $\frac{2}{3}$ of this loss is from raking and the rest from loading. Leaf shattering was high in all operations and accounted for more than $\frac{3}{4}$ of the field losses. The top picture above shows what happens when the leaves of the forage are too dry when raked.

Most of the field loss—8 percent—with barn-dried hay occurred during raking for first-year meadow and after raking for second-year meadow. Both management and weather influence these losses.

Hay from first-year meadow was mostly legume, and leaf shattering was a problem. Moisture content of the barn-dried hay when raked averaged 47.2 percent. Raking when tough was necessary to save the leaves (see lower picture above). However, the rake did not do too good a job of picking up the moist hay. The loss in loading—2.1 percent—was mostly leaves.

The forage from the second-year meadow was chiefly grass, so losses from leaf shattering were much smaller. Some loss occurred between mowing and raking, but most of the loss was between raking and loading. Some hay was missed by the rake, but most of the loss was caused by failure to pick up all the hay from the windrow. These results emphasize the need for having efficient pickup attachments on haying equipment.

If hay is cut in the late-bloom stage, many of the leaves are dead or severely injured by diseases and very susceptible to shattering. Quite often the temperature is high in the latter part of June or the first of July. This causes rapid drying. If the moisture gets down to 23 to 25 percent, you can figure on high field losses.

Silage harvesting losses occur mostly as uncut material. In one test, the field chopper cutter was set too high. We left 7 percent of the early silage uncut and 16 percent of the late-cut.

The next year we were more careful and the losses on early cut were reduced to 1 percent. However, because of lodging, we still had 13 percent uncut stubble on the late silage. The stubble on the early-cut silage would have made good feed, but the late-cut stubble did not have much feeding value to the animal.

Your field chopper should be set to cut as close to the standard mowing-machine height as possible to avoid excess stubble loss (see picture above).

Dry-matter loss in the field after cutting adds up to a small figure—1 percent—when harvested as silage.

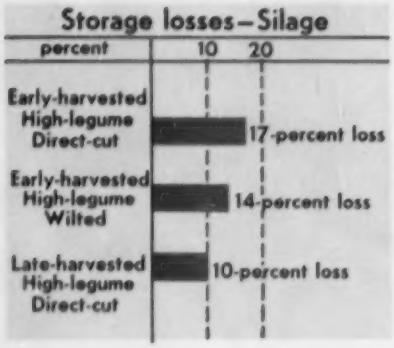
Rain-damaged hay accounts for the greatest harvesting losses. You can expect up to 30 percent loss. A heavy rainfall can ruin an entire crop (see picture at right).

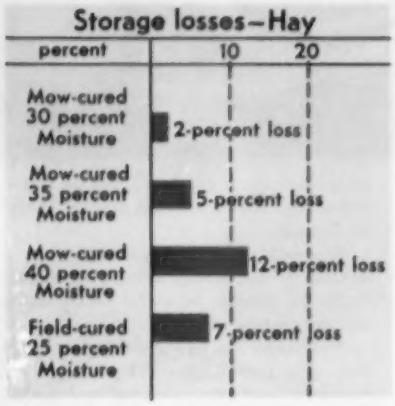
There are several ways you can cut down on rain losses. First, consider making silage of the first crop. Second, mow-dry the hay. This will reduce the time the hay is exposed to the weather. A hay crusher will also cut down on the drying time in the field.

Considering all expenses, it costs about $2 per ton for a mow-curing system without heat—about $6 per ton with heat.

Remember, the forage you feed a cow must take care of her maintenance requirements and also have enough left over for milk production. The cow will not eat as much poor-quality hay, and what she does eat won't produce as much milk as top-quality hay.

Storage losses





Moldy hay

Answer: mow-curing

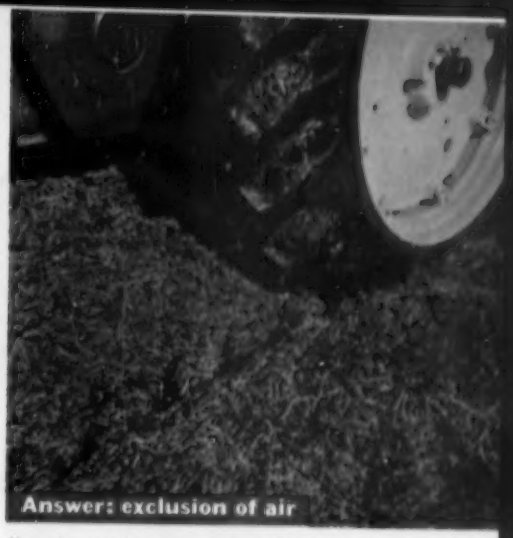
Hay losses in storage depend mainly on the moisture content of the hay when it is put into the mow and on weather conditions, especially humidity. When hay heats, it means nutrients are burning up.

The hay from our first-year meadow went on the dryer (air without heat) with a moisture content of between 30 and 35 percent. With good drying conditions, the hay dried down to a safe storage level in less than a week. The storage loss on this hay was only 2 percent, which is unusually low. Drying conditions were nearly ideal.

Due to threatening rain, the hay from the second-year meadow was put on the barn dryer at about 40 percent moisture. Not only was the moisture content too high, but on succeeding days the daily temperature was 10 to 20 degrees below normal. This provided very poor barn-drying conditions and the fan had to be operated over a longer period of time. The fermentation losses ran high, totaling 12 percent.

The barn-storage losses for field-cured hay were only 5.2 percent when first-year meadow was stored at 23 percent moisture. Losses went up to 9.6 percent in forage from second-year meadow stored at 24.8 percent moisture. The difference of 1.8 percent in moisture content may have been the reason for the difference in dry-matter loss. However, uniformity of moisture content was also a factor. About ⅓ of the hay was stored at a moisture content of 30 percent or higher.

Moldy silage



Answer: exclusion of air

Storage losses from fermentation and juice losses were much lower for the late-cut silage than for early-cut silage.

The loss from early-harvested, direct-cut, high-legume silage made from first-year meadow amounted to 1 load out of 6. For late silage, it was only 1 load out of 10. For early-cut silage (wilted), the loss was 1 load out of 7.

In many cases of early-cut, high-legume silage it may be necessary to wilt the forage before making silage to be competitive with barn-dried hay on nutrients preserved. Field loss on wilted silage was less than 5 percent in our tests.

Top spoilage in early-cut silage is not as high as late-cut, since the wet forage can be more easily packed. It is important, when filling either a tower or trench silo, to pack the material well to exclude air.

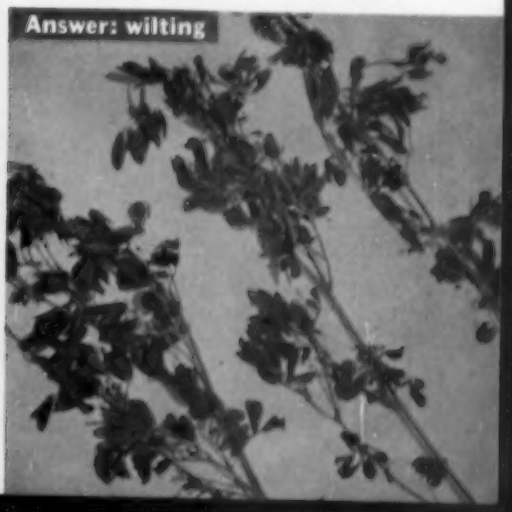
Seepage losses increase with early-harvesting and with a higher-legume mixture.

On first-year meadow, losses from both fermentation and seepage on early-harvested silage amounted to 19.1 percent. This dropped to 14.6 percent from second-year meadow.

Undoubtedly, the high loss obtained in silage from the first-year meadow was partially due to the high-moisture content of the early-cut forage. This forage was cut about one week earlier than the second-year meadow. This, together with the high legume content, may have increased fermentation loss.

Wilting may be necessary to bring moisture content down enough to prevent excessive fermentation and seepage losses. Even though storage losses are less with late-cut forage, the increased quantity and quality of early-cut forage more than makes up for the difference.

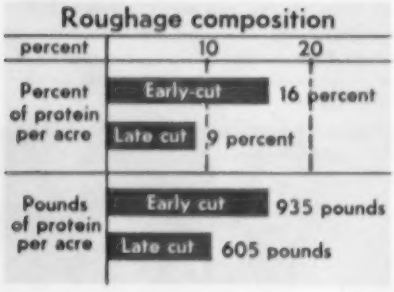
Seepage



Answer: wilting

Photographs: Joe Munroe

Roughage composition



The composition of forage depends on four important points:

1. Legume or nonlegume forage.
2. Stage of maturity.
3. Digestible dry matter.
4. Crude fiber content.

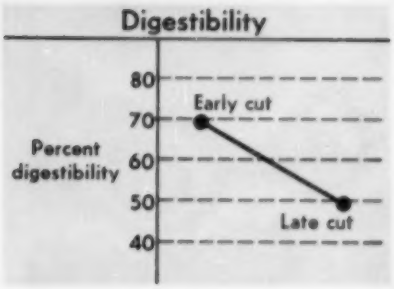
The cutting date ranks at the top as an influence on composition. As the stage of maturity changes, there is a marked effect on the percentage of digestible protein as shown here:

Cutting date	Non-legume % protein	Legumes % protein
June 1	13.5	18.7
June 15	10.0	14.5
July 1	6.7	10.2
July 15	3.7	6.4

As the protein content decreases, the fiber content increases. From June 1 to July 15, the fiber content increases from about 27 percent to approximately 38 percent. This represents a change of 10 to 12 percent during a 6-week period. When this occurs, digestible energy values decline because the feeding value deposited in these tough plant compounds is not easily digested.

Legumes and nonlegumes are quite similar in digestible nutrient content during different stages of development. Under the cutting dates listed for protein content, the digestible nutrient (TDN) content for hays are: June 1, 70 percent; June 15, 63 percent; July 1, 56 percent; and July 15, 49 percent.

Digestibility

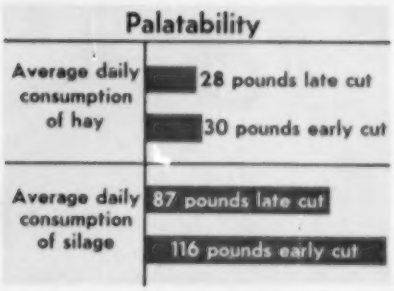


Digestibility of early-harvested roughages is very high—about 70 percent—but it gradually declines to about 50 percent, or less, at a later-cutting date. Digestibility of most roughages decreases ½ of 1 percent for every additional day of advance in maturity.

Digestibility and palatability, when combined with good yields and controlled storage losses, are more important than total nutrients or even total digestible nutrients per acre.

Roughages are bulky, and the cow can consume only about so much. The roughages must be of sufficiently high quality so plenty of milk can be produced after maintenance requirements have been satisfied.

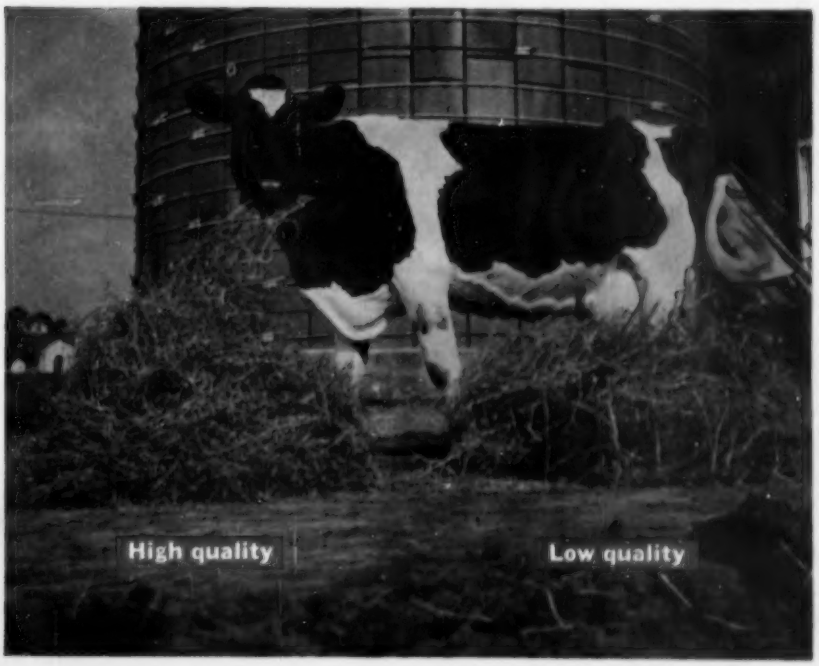
Palatability



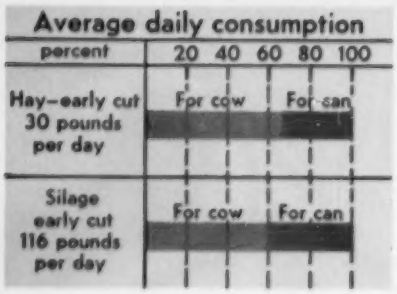
Considerable quantity of feed is needed every day just to maintain a cow—to keep her alive. This is a fixed requirement each day before any milk can be produced. From ⅔ to ¾ of the roughage a cow eats is required for maintenance.

An average Holstein needs 20 pounds of hay (or hay equivalent) just to keep herself alive. The real gains in profit come when her roughage consumption is close to 30 pounds.

The more roughage a cow eats, due to increased palatability of early-harvested roughage, the more is available for higher milk production.



Average daily consumption

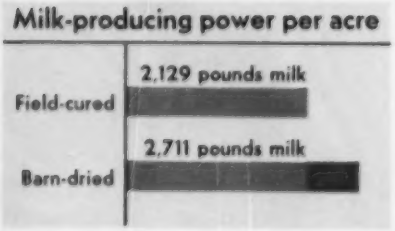


A cow will eat just about as much dry matter from silage as from hay when they're cut at the same time. But when the silage or hay is early-cut, she will eat more.

In Cornell tests, cows ate 116 pounds of early silage per day as compared to 87 pounds of late-cut silage. The late-cut silage was taken from the same field about a month later. The cows ate 11½ pounds of grain with both early- and late-cut silage.

The cows also ate 2 pounds more of early-cut hay per day than late-cut.

Milk-producing power



Final results of this 2-year Cornell experiment, involving both first-year and second-year meadow, show 2,711 net pounds of milk per acre when hay is barn-dried. This compared to only 2,129 pounds from field-cured.

Early-cut silage produced 2,621 pounds of milk per acre as compared to 2,140 pounds for late-cut silage.

That's a 27-percent advantage for barn-dried hay over field-cured, and 23 percent for early-cut silage over late-cut silage.

High-quality hay and silage—harvested at the right time and stored and fed according to the best management practices—can mean an extra can of milk out of every 4 or 5 your dairy herd produces

Dairyman Ralph Space and son, Ronald, produced *2,083 pounds of milk per acre in 1954.* How did they do it? By putting more emphasis on *milk production per acre.*

Ralph and his son own and operate a 160-acre dairy farm near Dryden, New York. They carefully watch and emphasize the *milk production per cow, per man, and per acre.*

In 1954, their 40 purebred Holsteins produced 467,800 pounds of milk, or an average 11,695 pounds per cow. Milk production on a per man basis averages between 150,000 and 200,000 pounds per year. *But the figure that tells the real story of profit or loss is the 2,083 pounds per acre.*

Look at the changes that have taken place on the Space farm during the past few years. The only thing that hasn't changed is the total acreage! While other farms were increasing total acreage, the Spaces were increasing their production by using improved methods and stressing top-quality forage production. After all, it's the net income, not the gross volume, that keeps you in business.

These figures tell the full story of efficient production per acre:

Size of business	1937	1954
Size of farm (acres)	160	160
Crop acres	61	87
Cows in milk (number)	11	40
Yearling heifers (number)	9	22
Calves (number)	7	13
Number of laying hens	770	1,200
Man-equivalent	1.3	2.4
Crop yields		
Hay production (tons)	52	116
Hay per acre (tons)	2.0	2.8
Corn for silage (tons)	90	225
Silage per acre (tons)	10	12.5
Grass silage (acres)	none	14
Oats (bushels)	375	1,600
Oats per acre (bushels)	30	80
Rate of production		
Total milk production (pounds)	96,734	467,800
Total butterfat production (pounds)	3,289	18,240
Average milk per cow (pounds)	8,794	11,695
Average test (percent)	3.4	3.9
Average butterfat per cow (pounds)	299	456
Labor efficiency		
Cows per man	8.5	16.6
Milk per man per year (pounds)	74,406	194,917
Milk per acre (pounds) (From pasture and roughage only)	892	2,083

The major portion of the grain was purchased. After calculated milk production from grain was deducted, 193,698 pounds of milk were produced on 93 acres used for pasture and roughage production for the milking cows.

The current year (1955) will be an even better one for the herd. The latest report showed it producing over 40,000 pounds per month, or about 5,000 pounds more than a year ago.

Ralph and his son spend 4 to 5 minutes milking each cow. They operate only 2 machines so they can give more attention to proper individual milking. This is important to get the best use out of good roughage and other feeds.

On some land they have brome, alfalfa, and Ladino—their first choice for land suited to this mixture. The other pasture-hay land had Ladino and timothy seeded on it. Their 50-foot silo is filled each year with a high-quality hay crop to feed out in late summer when pasture gets short. In the fall, this silo is filled again with corn silage.

This all-year-around program, combined with good pasture, set the stage for high milk production per acre.

The Spaces are firm believers in the 8-point "package" outlined by Cornell University. It includes all the practices concerned with roughage production and the many different factors dealing with its milk producing power when utilized through the cow. Each point is related to the other and it takes them all for one to realize the full benefits.

The Spaces work only a normal day, leaving time for social activities and participation in farm and civic organizations. Moreover, when you visit their attractive farm home with all of its modern conveniences, you can at once realize the advantages of a program emphasizing milk production per cow, per man and *per acre.*

Editor's note: After this article was written and just before we went to press, we received a letter from the Spaces stating that they had purchased a new farm. We would like to share that letter with you because it explains very well why they made the switch. It also stresses the importance of efficiency in farming today.

"We purchased a new farm last September 14 some 7 miles away. Our new address in the spring will be Freeville, New York. The new farm consists of 288 acres of deep, well-drained soil.

"The reason for making the change, and I can assure you it was *hard* to do, was the fact that changes over the last 20 years have been tremendous. As we look ahead 20 more years, we feel our smaller farm will not carry the cow numbers which our newly purchased farm can. The land is in good state of cultivation, but the buildings, while good basically, need much work. We feel we can now make better use of laborsaving devices and machinery and therefore do a more efficient job of farming."

Antiques . . . useful and livable

By Betty Fisk

▲ The Nevilles enclosed the old front porch and made it a family room. This end is used for a summer dining room. Windows all around make it cheerful. Old table and chairs make plenty of seating space. Mammy bench at left

◀ Dry sink, used for plants, was refinished and put in entrance hall. Old apothecary jars are filled with candy and combined with water cooler and clock. Pictures go well with antiques

The Nevilles found the old secretary an ideal ▶ spot to show off collection of Staffordshire. Desk is useful, and drawers hold letter-writing supplies and household books. You'll find this in entrance hall opposite the pine dry sink

The charm of antiques is knowing how and where to use them—what to combine with them. See how the Maurice Nevilles of Lafayette, Indiana, made their farm home gracious, attractive, and useful with antiques. Whether you're an antique-collector or not, you'll love their home

You may have picked up that old desk at a farm auction for just $5, but unless it will make friends with the furniture you have—and be useful—then it wasn't a bargain. When collecting antiques, there are a few tips to remember: *They should be useful.* A chest of drawers may be a beautiful piece, but if the drawers don't work, it's just a space-stealer. *They should go well with the furnishings you have.* Have draperies, floor covering, and other furniture that are harmonious. Modern furnishings can be combined with antiques, but all must be in good style. *Use your imagination.* Find new uses for old vases, buckets, dishes. An old copper kettle makes an interesting planter, or a butter crock a waste basket or umbrella stand.

The Maurice Nevilles furnished their farm home with antiques, and used imagination and good taste. Cecelia said everything had to be useful as well as attractive. If you're a lover and collector of antiques, you're bound to find new ways to use them. Remember—they should be useful, go with the things you have, be in good style and taste, and be shown to the best advantage and without clutter.

This small room off the entrance hall was made into an office for Maurie and furnished with a combination of antiques and new furniture. Coffee table is cobbler's bench. Pictures are old prints that go well with antiques, Provincial draperies, braided rug. Here Maurie helps Maurie Jr. clean his fishing tackle. Office-den also serves as guest room, with sofa as bed

Photographs: Hedrich-Blessing

Other end of enclosed porch is used for reading, games, and relaxing. New love seats are covered in Provincial fabric to harmonize with old pieces like butter-churn lamp, old shelf and pictures, and copper bucket waste basket. Hooked rug, chintz cafe curtains fit into old feeling of room. It's a warm, inviting spot for family living

Hutch cabinet in dining room is Pennsylvania Dutch. Shelves are painted blue and show off old china. Cabinet below holds china. Screen isn't old, but is in period to go with cabinet so they go well together. Accessories and highchair are antiques

Antique corner cabinet shows off collection of coffee grinders and china. Blacksmith's cart by chair is smoking stand. Hooked rug, provincial curtains are in keeping with feeling of old furniture and accessories. Narrow bench by window holds plant, books

Beneath many coats of paint, they found beautiful wood in this buffet. Used now in the dining room, it provides linen and silver storage. On top, old silver pieces show off well

Cook where you eat —with small appliances

By Ruth Bos

Combine plug-ins with family fun or entertaining by cooking with them *where* you eat. You're not only moving yourself right into the center of all the fun, but you're welcoming eating companions to enjoy full cooking aroma of the meal in the making!

Mrs. Lloyd Carmichael, farm homemaker of Belvidere, Illinois, gives these suggestions for eating surprises with "little electrics." You'll find numerous menu variations around any one appliance. So, if you like her idea, use the small appliances you have to spark up a frequent one of the three meals a day.

Photographs: Nelson, Photography, Inc.

Tax snacks for January

Popcorn, soft drinks as the proverbial "food for thought," are no interruption to the columns of figures being added. Mrs. Carmichael anticipated a lengthy session and set up the electric popper, bottled drinks before project got under way. Insulated container holds drinks, ice cubes.

Young couples' supper club →

This menu for a large group frees hostess to enjoy guests when meal's cooked where it's served. Electric bean pot, pretty enough for any table, saves oven from long baking (cooks casserole dishes, too). Electric chafing dish with dial control barbecues franks. Completing menu are coleslaw, coffee, buns, and dessert—prepared ahead.

← Try this easy wash-day special

After a long, busy day, try this labor- and timesaver. Beef-vegetable soup, toast, relish, ice-cold milk, and berry cobbler make this menu balanced. Automatic electric saucepan brewed the soup in a hurry with a soup bone and frozen mixed vegetables. Family-size toaster turns out 3 slices of toast at once. Portable oven with dial heat control bakes frozen berry cobbler at table while family eats.

Sunday dinner goes "plug-in" →

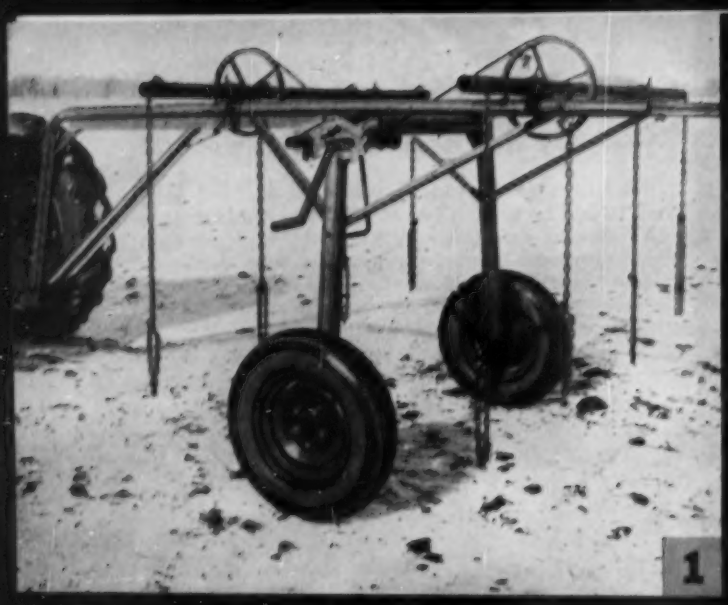
The Carmichaels combine Sunday eating with Dad's food talents. Boneless ham cooks to perfection on rotisserie broiler, with automatic timer. Sweet potatoes, in pan below the rotisserie, catch drippings from the ham and cook to a turn. Roll them in brown sugar before placing them on tray. Try rotisserie-broiling any tender cuts of meat either on racks or skewers. Appetites'll grow with "whiffs" of what's cooking.

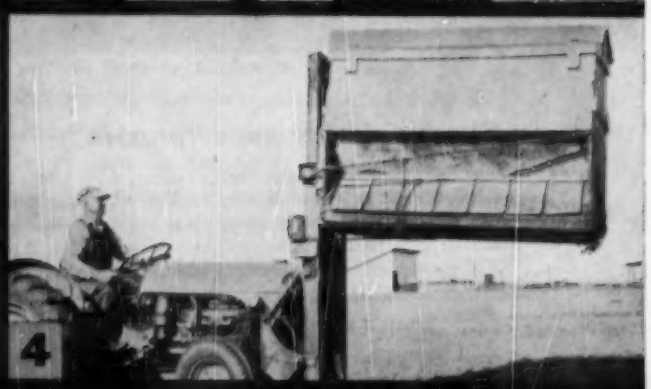
← Help-yourself Sunday night

The most casual of meals can be vacation time from the kitchen—with small appliances. Here's an all-American favorite—waffles and ham! Big waffle grill serves 4 at a time, enabling Mrs. Carmichael to eat right along with the crowd. Chafing pitchers keep melted butter and hot waffle syrup ready. Tray plates help make this an eat-in-the-living room special. Instant coffeemaker heats water in record time—makes second cup easy to come by.

This is an any-day breakfast →

A "plug-in" breakfast takes on a festive air and keeps even the most fastidious early eaters fascinated as the pancakes turn golden brown before their eyes. Electric griddle with automatic control is large enough to grill 4 average-size pancakes at once. Lip around the outside of grill catches drippings from the sausage.





Weight-lifting made easy

There's no end to materials handling problems where weight lifting is concerned. The ideas shown here are solutions for some of the most important lifting jobs these farmers have. Do a little adapting and they will fit your farm, too

By S. S. DeForest

1. Implement carrier built by Paul Lofschult, Woodbury County, Iowa, is 50" high, 8' wide. Large 12" pulleys, when rotated by cable connected to crank and ratchet, wrap chains around pipe to lift implements including disc, 4-row lister, or side-delivery rake.

2. Drawbar hoist handles 600-pound molasses barrels, loads equipment for transport, moves feed bunks, pulls posts. John Strobel, Holt County, Missouri, extends hoist from 4'-7' by sliding 4", 3½" pipes.

3. This "back-saver" also makes use of telescoping pipes to vary height from 5' to 12'. R. J. Preheim, Turner County, South Dakota, says hoist will lift 1 ton. It lifts machines, sets poles, pulls casings.

4. Here's an adaptation of an industrial fork lift truck for moving hog houses, feeders, water tanks on Iowa State College farm, Ames, Iowa. Large units may require backing tractor into position for vision.

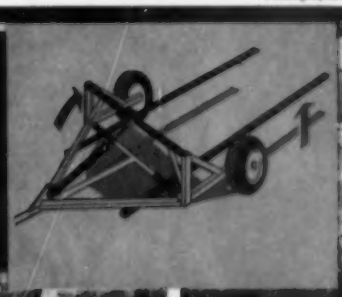
5. Anything that can be mounted behind or swung beneath can be carried by this device made by Kenneth Robertson, Henry County, Iowa. It's made with 2" pipe and braced with 1½" pipe. Frame is 4½' wide and supported by 32" long pipes.

6. Linkage on this loading platform, built by R. J. Preheim, Turner County, South Dakota, keeps it level whether raised or lowered. Unit allows heavy items to be unloaded at wagon height.

7. Multi-use, hydraulically operated trailer, designed and built by Irvin Fritz, Franklin County, Indiana, is used for moving hog houses, complete with sow and litter, to clean ground, or for hauling such things as bagged feed, seed or fertilizer, bales of hay or straw, fencing supplies and tools, feeders and waterers. Because prongs are fitted loosely on cross member, irregularities in ground surface do not interfere with sliding trailer beneath loads. Loading operation can be accomplished without leaving tractor seat. Drawing shows how trailer works. Pallet idea, just below, saves handling bags, bales.

8. Big advantage of this multi-claw hay hook is in being able to pick up bales without having to restack the load. It hoists 8 round or rectangular bales with individual hooks. All bales are released at same time, without being pulled apart, by trigger release rope. Lee Bredensteiner and Sterling Simmons, Page County, Iowa, developed this device. It weighs 40 pounds as compared to 70 of the old type. A semi-trailer-load of hay can be unloaded in 90 minutes.

Photographs: Joe Munroe; Weltner; Wettach; Renniger; Nelson, Photography, Inc.



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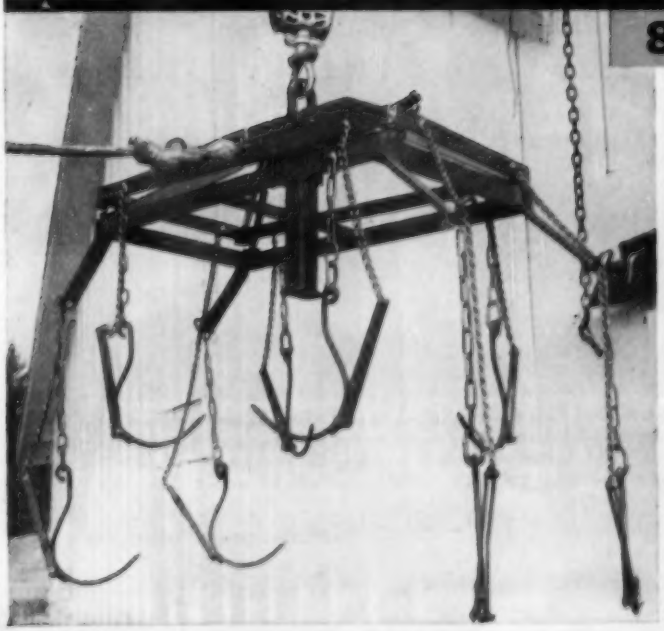
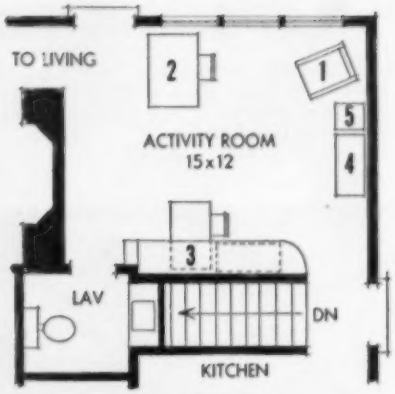


An activity room with five uses

Mrs. Biddick finds this spot by the big window a perfect place for painting, while Mr. Biddick relaxes in his reclining chair. Note bulletin board, which is both decorative and useful



1. Reading, relaxing. A comfortable, reclining chair, pin-up lamp make reading nook

2. Painting. An artist in her spare time, Mrs. Biddick finds this spot by the window perfect for her hobby. Old oak table was refinished and makes place to stand easel and supplies

3. Office. Built-in and cabinets make an area for keeping farm and home records and typing

4. Ironing. Washer-dryer is close by in kitchen, so this room is a convenient spot for ironing

5. Sewing. Here's where Mrs. Biddick keeps sewing machine. Full-length mirror is on opposite side of room. Tile floor is easy to clean

Every farm home needs a place for Mom to sew and iron, a desk and office area for farm and home records, and somewhere for Dad to relax. But, it isn't every farm home that has *one* room serving all these purposes and more, like the activity room in the Elmer Biddick farm home near Livingston, Wisconsin.

"We just live in this room," says Mrs. Biddick. And you can see why—it's so livable and efficient.

Photographs: Suter, Hedrich-Blessing

Mrs. Biddick finds this ideal place to sew. Here she measures hem for daughter Rachel while Mr. Biddick washes up. Door goes into wash-up room. Full-length mirror is handy for fitting. Built-in counter and cabinet make desk area. Cabinet is portable and can be moved. (See left.)

Meal for a weight watcher—SOUP and FRUIT!

Here's a tempting lunch or a light supper that packs enough goodness to carry you through to the next meal. Yet it's really low in calories!

First and foremost: Campbell's Chicken Noodle Soup. A sound soup if ever we tasted one — chockful of golden egg noodles, and flavor-full of country chicken — the best of the white and the dark meat, too.

You can choose almost any Campbell's Soup. A cream soup or Vegetable Soup or Beef Soup. Surround it with cool and frosty fruit — and you have a meal so good you feel better for it for hours!

Why? Because this light meal brings you just about everything a good meal should! Proteins, vitamins, minerals, energy — these you'll find aplenty, and you couldn't be getting them in a pleasanter way!

Today, watch your weight — and like it! Make one meal soup and fruit.

SOUPS SUPPLY BASIC NUTRITIONAL NEEDS

PROTEINS—for upkeep and growth

VITAMINS and MINERALS—for vitality

CARBOHYDRATES—for energy

LIQUIDS—for digestion

Once a day . . . every day . . . SOUP!

M'm! M'm! Good!

"Easy entertaining...easy as cake!"

says Betty Crocker *of General Mills*

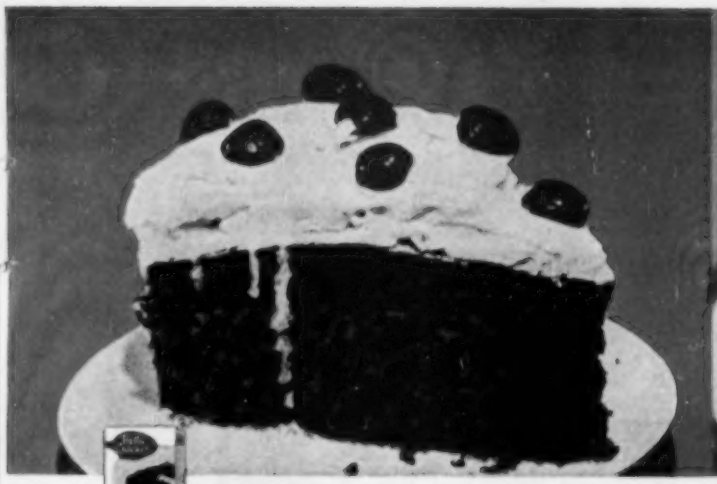
Polka-Dot Cake. Couldn't be better-looking! Couldn't be better-tasting! Couldn't be easier! Just bake up our Betty Crocker White Cake Mix in 8" layer pans as directed on package. Then frost with Brown Beauty Icing (recipe's right on the package). Punch nonpareil candy bits into the frosting to make that pretty polka-dot effect. There, wasn't that quick?

Betty Crocker
OF GENERAL MILLS

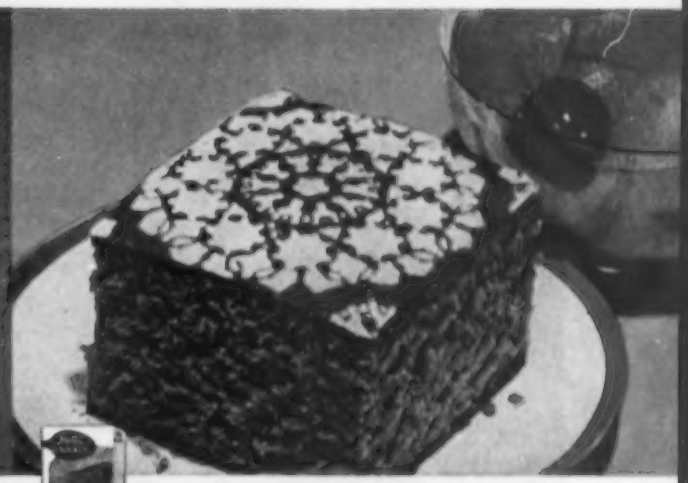
"**Hello, there!** Isn't it fun to share good food? Fun things like cakes, cupcakes, cookies or steamed puddings that make your guests say: 'How wonderful, did you do it yourself?' With our Betty Crocker Cake Mixes there's just no end to the good things you can 'do yourself.' They're all so easy, and so good! You see, we make our mixes with the same ingredients you'd choose—like all-vegetable shortening, 'n Softasilk Cake Flour. Our Angel Food Cake Mix contains the whites from 13 farm-fresh eggs. Our Gingerbread needs no eggs—but we do ask you to add fresh eggs to our other mixes. We know from your letters that folks appreciate the taste of fresh-egg cakes. So share good food 'n fun—it's as easy as cake!"

Betty Crocker

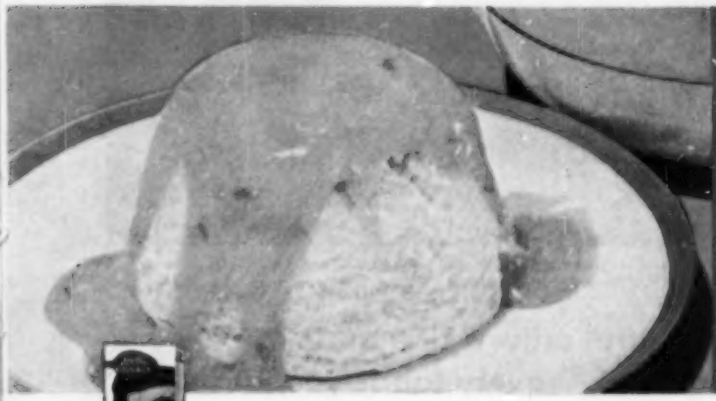
P. S. Have you tried our NEWEST flavors – Peanut Delight and Chocolate Malt?



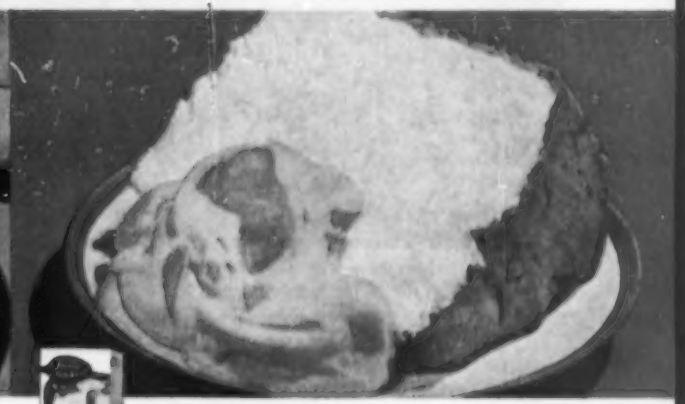
George Washington Ice Cream Pie. Bake *Betty Crocker Chocolate Devils Food Cake Mix.* Spread soft ice cream on 1 layer; add cherries! Use 2nd layer tomorrow.



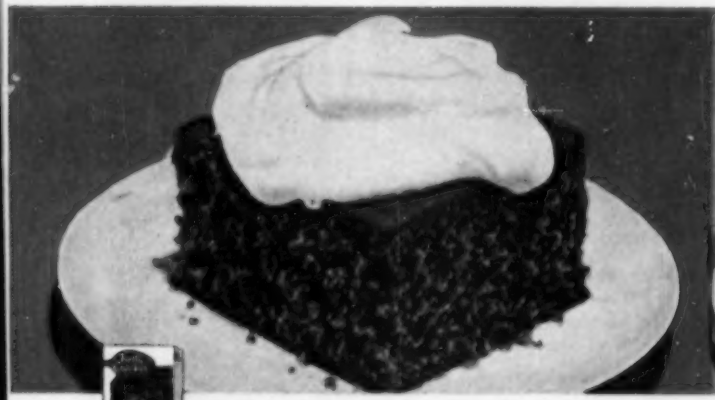
Sugar 'n Spice Cake. Bake up *Betty Crocker Honey Spice Cake Mix.* Place lace pattern doily on warm cake, sift with confectioners' sugar; rub through holes; lift doily.



Cake Pudding. Grate orange rind in *Betty Crocker Yellow Cake Mix* batter. Fill custard cups ⅔ full. Tie foil cap over each; steam in 2" water 30 min. Serve with orange sauce.



Pink Cloud Cake. Light 'n lovely *Betty Crocker Angel Food Cake.* Pink fluff? Whip 1 cup heavy cream with ¼ cup sifted confectioners' sugar plus 3 drops red coloring.



A New Mix! A New Cake! It's *Betty Crocker Chocolate Malt Cake Mix,* with malted milk flavor. Extra-good topping: whipped cream sweetened with confectioners' sugar.

Marble Boston Cream Pie. Use new *Betty Crocker Marble Cake Mix* for this. (No chocolate to melt, no extra bowl to wash!) Split one layer, fill with chocolate pudding.

For perfect cakes-guaranteed perfect*!

Betty Crocker Cake Mixes

"I guarantee a perfect cake every time you bake — *cake...after cake...after cake!*" Betty Crocker

*PERFECT? Yes, we DO mean perfect. You be the judge. If a cake you make with a Betty Crocker Cake Mix is less than perfect, mail the box top to Betty Crocker, Box 200, Minneapolis, Minn., and General Mills will send your money back!

No rainy washday worries for this modern homemaker! Her wonderful new G-E Dryer with automatic clothes conditioning dries clothes just right, every time! Why not see *your* G-E dealer soon? G-E Dryers priced as low as $149.95 in most areas.

New G-E Dryer with Automatic Control adjusts drying time and temperature to suit every load . . . every fabric you wash!

Dries clothes wrinkle-free . . . sunshine-fresh . . . indoors!

This Automatic Control distinguishes the new General Electric Dryer from just another dryer! It adjusts to the correct time and temperature for any clothes load . . . automatically!

No need to guess how long a load should dry . . . or at what temperature! Simply set control according to fabrics.

"N". . . *for normal fabrics—cottons, linens*

"D". . . *for delicate fabrics*

"H". . . *for heavy bedspreads and rugs*

That one motion is all it takes to dry your clothes softer, fluffier than you ever thought possible!

You'll find you'll have less to iron . . . many pieces come out of the dryer so smooth and wrinkle-free you can wear them immediately —or put them away without ironing!

Sprinkle your clothes . . . automatically in the new G-E Dryer! When you're ready to iron, put clothes to be dampened in your General Electric Dryer and turn control to SPRINKLE.

The right combination of moisture, air and tumbling will have them ready for easy ironing in minutes.

See it at your G-E dealer's soon! Available in Petal Pink, Turquoise Green, Canary Yellow, Cadet Blue, Woodtone Brown and White. General Electric Company, Major Appliance Division, Louisville 1, Kentucky.

No special wiring necessary! Can be operated on 115-v. appliance or on 230-v. circuit.

Gentle fragrance *from Air Freshener* is released into air stream and fills clothes with sunshine-fresh smell without sunshine-fade.

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GENERAL ELECTRIC

Crispy French-fried Onions (Serves 6)

4 large mild sweet onions
Milk
⅔ cup yellow corn meal
⅔ cup sifted flour
¼ teaspoon salt
⅛ teaspoon pepper
2 tablespoons melted shortening
1 beaten egg
1⅔ cups milk
Flour

Peel onions and slice ¼-inch slices; separate rings. Soak rings in milk 15 minutes. Mix corn meal, flour, salt, pepper, shortening, egg, and 1⅔ cups milk to make batter. Drain onion rings, dip in batter, then flour. Fry in hot deep fat (375°) 2 or 3 minutes or till golden. Drain.—*Mrs. Nick Marra, Iowa.*

Country Onions (Makes 6 servings)

6 medium-size mild sweet onions
½ cup butter
½ cup dry bread crumbs
½ teaspoon salt
2 tablespoons grated sharp process cheese
1 can cream of mushroom soup
½ cup milk

Cut thick slice off onion tops; scoop out centers. Cook shells in boiling salt water 20 minutes; drain. Chop pulp taken from onion centers; saute in butter 20 minutes. Combine chopped onions, bread crumbs, salt. Fill shells with onion mixture; sprinkle with cheese. Place in 1½-quart casserole. Simmer mushroom soup and milk 2 minutes; pour around onions. Bake in moderate oven (375°) 20 minutes.—*Mrs. H. E. Chrisman, Nebraska.*

Onion Pie (Makes 9-inch pie)

3 cups coarsely chopped mild sweet onions
3 tablespoons butter
1 9-inch unbaked pastry shell
3 beaten eggs
¾ cup light cream
1½ teaspoons salt
Dash pepper

Cook onions in butter till tender. Turn into pie shell. Mix remaining ingredients and pour over onions. Bake in moderate oven (350°) 35 minutes.—*Mrs. Jo Hershline, Indiana.*

Photographs: Photography, Inc.

Chocolate Cream Log (Serves 8)

5 egg whites
½ teaspoon cream of tartar
½ cup sugar
¼ cup sifted flour
¼ cup cocoa
¼ teaspoon salt
½ cup sugar
5 beaten egg yolks
1 teaspoon vanilla

Beat egg whites and cream of tartar till stiff. Slowly beat in ½ cup sugar. Sift flour, cocoa, salt, and other ½ cup sugar; blend into egg yolks; add vanilla and fold into white mixture. Line 15½x10½x1-inch pan with greased paper; spread evenly in pan. Bake in slow oven (325°) 25 minutes. Cool 5 minutes; turn onto towel sprinkled with sifted confectioners' sugar; remove paper; trim crusts; roll. Cool; unroll; spread with filling; roll again; chill. *Creamy Filling:* Mix ¼ cup confectioners' sugar and 1 teaspoon unflavored gelatin. Gradually add 1 cup heavy cream, whipping till soft peaks form. Stir in ½ teaspoon vanilla.—*Mrs. Harold Hofts, Nebraska.*

Treats with chocolate

Please chocolate fans in your family by serving these desserts

Cut out these recipe pages and file them in your favorite cook book

Chocolate Angel Pie (Makes 1 9-inch pie)

2 egg whites
⅛ teaspoon salt
⅛ teaspoon cream of tartar
½ teaspoon vanilla
½ cup sugar
½ cup chopped walnuts

For pie shell, combine first four ingredients; beat till soft peaks form. Gradually add sugar; beat till mixture stands in stiff peaks. Fold in nuts. Bake in buttered 9-inch pieplate in slow oven (300°) 45 minutes. Cool. *For filling*, heat 4 1-ounce squares of sweet chocolate with 3 tablespoons water till chocolate melts; cool. Add 1 teaspoon vanilla; fold in 1 cup heavy cream, whipped; turn into pie shell. Chill.—*Mrs. Mannie Karels, Minnesota.*

Mint Layer Brownies (Makes 2 dozen)

2 1-ounce squares unsweetened chocolate
½ cup butter
1 cup sugar
2 eggs
½ teaspoon salt
½ teaspoon baking powder
¾ cup sifted flour
½ cup chopped nuts
Peppermint Filling

Melt chocolate and butter; add sugar; beat in eggs. Sift dry ingredients; stir into chocolate mixture; add nuts. Spread in paper-lined 13x9½x2-inch pan. Bake in moderate oven (350°) 20 minutes. Cool 10 minutes; slice in half crosswise. Spread between layers with *Peppermint Filling:* Mix till smooth 1 cup sifted confectioners' sugar, 1 teaspoon butter, 1½ tablespoons milk, ⅛ teaspoon peppermint extract, and few drops green food coloring.

Chocolate Puffs (Makes 1½ dozen)

1 6-ounce package semisweet chocolate pieces
2 egg whites
¼ teaspoon salt
½ cup sugar
1 teaspoon vanilla
1½ cups shredded coconut

Heat chocolate till melted; cool; beat egg whites till foamy; add salt. Add sugar gradually, beating well after each addition till stiff peaks form. Fold in vanilla, chocolate, coconut. Drop by teaspoon onto brown-paper-covered cookie sheet. Bake in slow oven (325°) 20 minutes.—*Mrs. Harold Gear, Wisconsin.*

SUCCESSFUL RECIPES Tested in Successful Farming's Tasting-Test Kitchen

Cut along dotted lines

Stuffed Onions (Makes 6 servings)

6 large mild sweet onions
½ pound ground beef
¼ pound sausage
1¼ teaspoons salt
⅛ teaspoon pepper
1 tablespoon prepared mustard
1 cup soft bread crumbs
¼ cup chili sauce

Cook onions in boiling salted water 30 minutes. Drain; cool. Cut slice off tops; remove centers. Combine ground beef, sausage, seasonings, bread crumbs, and chili sauce with 2 tablespoons chopped onion centers; stuff onions and place in baking pan. Bake in moderate oven (350°) 30 minutes.—*Bertha Rohrich, Nebraska.*

Onion fix-ups

Select mild sweet onions for these easy-to-do recipes that feature four favorite ways to prepare onions

All around the house

Here are tips to help you save on time, steps, space, and work

● When wrapping a small gift for a friend, use a gay-colored towel instead of paper. It's unusual, and it adds to the value of the gift.—*Mrs. Earl Dickerson, Ohio.*

● **Ballpoint-pen ink may be removed from a washable garment by saturating the stain with rubbing alcohol. After soaking with alcohol, rub the stained area between the fingers until ink is softened; then wash garment in the usual way.—*Mrs. Herbert Prochnow, Wisconsin.***

● To cut a little girl's bangs without protest, put a piece of clear plastic under the bangs and over her face, and have her hold it tightly. You can see her features through the plastic, enabling you to cut evenly. And she won't get a tickly nose. —*Mrs. Virgil Clemetson, South Dakota.*

● **Amuse the children by making their pancakes shaped like gingerbread men. Keep them small so they can be easily turned.—*Mrs. John Hershey, Pennsylvania.***

● Remember that grease softens rubber, so avoid touching the gasket around the refrigerator door with the hands—even clean hands are oily. Wash the gasket regularly with a solution of baking soda in water; rinse and dry.—*Val Thomas, Missouri.*

Successful Farming pays $5 for each original helpful hint published. We do not accept previously published suggestions or return unused ones.—Editors

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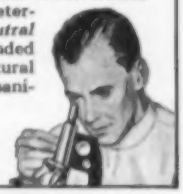
Only clean milking equipment will deliver Grade-A milk — give you higher profits. 100% non-alkaline Vel does an excellent cleaning job, no matter how hard the water. Vel is not a soap —contains none of the harsh alkalis found in washday detergents. Vel is a *neutral* detergent recommended by leading agricultural schools and milk sanitarians.



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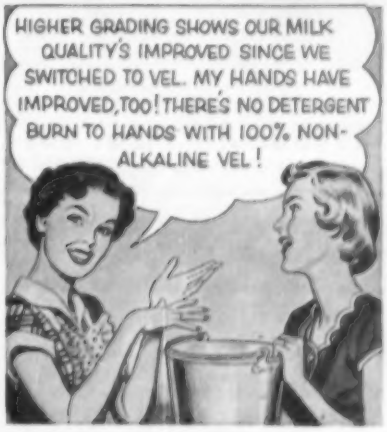

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VEL'S "HAND-HEAT TEST" shows how to help avoid ROUGH, RED HANDS!

Dip hands in water. Then put a tablespoonful of any leading washday detergent in one hand — put a tablespoonful of VEL in the other.

Feel the heat with any leading washday detergent, indicating irritating alkalis and harsh chemicals that cause "detergent burn".

Feel NO heat with Vel because Vel contains no alkalis or harsh chemicals. There's no "detergent burn" to hands with Vel.

VEL makes dishes shine WITHOUT WASHING OR WIPING!

● ***Just soak and rinse . . . If a bit of food clings, a touch of the dishcloth gets it off!***

Fill Pot Holes, Smooth Fields for Better Surface Drainage

AND GREATER
CROP YIELDS
WITH AN

For As Little as $3.00 Per Acre

Eversman All Purpose Tillage Tool and LAND SMOOTHER

Make plans now to smooth fields, fill pot holes, improve surface drainage with an Eversman. Eversman smoothed fields free of pockets, dead furrows and back furrows greatly increase crop yields—reduce labor and water costs on irrigated land. With springtooth attachment the Eversman is a complete TILLAGE TOOL, which breaks clods, mulches the soil, makes a firm, well packed seedbed which holds moisture, makes planting uniform, cultivating easier and harvesting faster.

Seven all-purpose models for all standard farm tractors . . . for Automatic Soil Smoothing, Dirt Moving, Seedbed Preparation!

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With an Eversman and your own tractor it is easy and inexpensive to eliminate pot holes, fill gullies, straighten out terraces on hillsides, build farm over drainage ditches and grass waterways. Write for useful FREE booklet.

Tried and Proven in Rain Fall and Irrigation Areas Throughout the Nation

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amazing new air compressor!

The new Model 336 *Farm'n'Field detachable-tank unit* is the last word in portable air compressors. Only five minutes to fill the tank and five seconds to disconnect it. Stainless steel tank. Filled . . . weighs less than 20 pounds . . . easily portable in emergencies. Operates grease guns and blow guns, sprays paints, etc. Low center of gravity. 10-inch rubber tired wheels. *Bigger compressor . . . delivers more air in less time!* ½ HP motor. See it at your dealer or write for literature to THE CAMPBELL-HAUSFELD CO., 205 Railroad Ave., Harrison, Ohio.

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COWPOX*-RINGWORM
Treat Sores, Skin Abrasions

*Blu-Kote dries up cowpox lesions, controls secondary infection. Germicidal, Fungicidal, protective wound dressing. Quick drying . . deep penetrating. 4 oz. bottle $1.00 at drug and farm stores or write: H. W. NAYLOR CO. • MORRIS N. Y.

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Dr. Naylor's BLU-KOTE

Livestock news

Fermentation product ups pig growth 22 percent

University of Minnesota tests show that a commercial fermentation product containing unidentified growth factors increased baby pig gains by an average of 22.8 percent over pigs receiving a basal ration.

The fermentation product gave better growth response than either dried whey or fish solubles, two other sources of unidentified growth factors tested in two experiments.

The increase in daily gain from the addition of dried whey was 17.5 percent, from fish solubles 14 percent, and from the fermentation product 22.8 percent. The greatest growth gains resulted when the fermentation product was combined with whey in the ration.

Corn silage cut cost of brood-sow ration

Feed costs for sows during gestation can be reduced as much as 20 percent if a corn-silage ration is fed, report J. H. Conrad and W. M. Beeson, Purdue University animal husbandmen.

In addition to reduced feed costs, sows fed corn silage farrowed up to 2 more pigs per litter during two recent experiments at the Purdue livestock experimental farm. The sows fed silage weaned an average of 1.3 more pigs per litter at 8 weeks than other sows.

From these two experiments, the Purdue specialists concluded that normal healthy litters can be produced when sows are fed a ration of good-quality corn silage supplemented with proteins, vitamins, and minerals.

During the Purdue experiments, silage was fed twice daily in large flat-bottomed troughs with the supplemental feed distributed over the silage. Thirteen pounds of corn silage were consumed daily per sow in addition to 1.5 pounds of a high-quality protein supplement.

Adequate protein and minerals must be fed if optimum gestation performance is to be obtained, since corn silage is extremely low in these two items. The daily feeding of 1.5 pounds of a highly fortified protein supplement corrected the nutritional deficiencies of corn silage during the Purdue tests.

Unidentified factors speed rumen activity

Researchers at Iowa State College are on the track of unidentified factors which appear to be able to double the activity of beneficial rumen organisms in cattle.

Tests are under way in an artificial rumen to determine if the activity of the rumen organisms can be increased. If so, cattle can be expected to increase their feeding efficiency.

The researchers have hydrolyzed 5 different substances containing various kinds of protein. They are casein, chicken-feather meal, pig's hair, Drackett protein, and soybean oil meal.

The hydrolyzed feather meal has stimulated rumen activity as much as 225 percent of normal. The hydrolyzed casein stimulated the activity to 177 percent. The other hydrolyzates resulted in smaller increases.

High-energy supplement helps roughage digestion

Sheep can digest two-thirds to three-fourths of the nutrients in a feed mixture containing 50 percent of either ground corncobs, sugarcane bagasse, or low-quality hays, plus 50 percent of high-energy feed supplements. Use of the high energy supplements in this mixture increases digestibility of roughage by more than 10 percent, the U.S.D.A. reports.

The high-energy supplement makes for rapid multiplication of bacteria in the sheep's rumen (first stomach). The bacteria work on the roughage celluloses, breaking them down into volatile acids. Sheep digest the acids, also most of the high-protein bacteria. Cobs proved the most efficient of the three roughages.

Handy slip-gate

A slip-gate leading to lots and pastures is a timesaver for Edward Moore, Perry County, Missouri. Moore said the gate, which is merely an opening cut in the fence, turns all his stock.

Moore built the gate by setting two posts and bracing them at the top. As for width, Moore said you have to build the gate to fit your body. Make it just wide enough so that you can slip through.

Only an INTERNATIONAL DIESEL CRAWLER gives you all these BIG-INCOME ADVANTAGES!

Full-sized International diesel crawler "horses" deliver their heavy-duty power wallop—even on slippery cover crop or soggy field trash. This 4-plow TD-6 is taking the 4-furrow McCormick moldboard plow at third speed—turning under tough, 4-foot sweet clover on heavy black land—7 inches deep, 16 acres daily! Correct power-weight balance, plus forward hitch point for non-slip traction team up with International diesel pre-set governing—to give you full-rated pull and working speed. Compared to gasoline power replaced and work done the TD-6 is saving a $5.00 bill, daily, on fuel expense alone. That's renewing crop-making, soil-saving humus at new low cost with once-over tillage!

Both ends are business ends—any time, anywhere, at the drop of a drawbar pin—or the quick change of the McCormick combination carrier from dozing to tool bar tillage, unlimited! Or seconds after you complete a stock-pond, or finish dozing a soft feed-lot clean, you can be doing any drawbar job "in the book" (and dozens that aren't)! Only International crawler tracks are ball-joint mounted, for positive alignment and free-action traction on all terrain! And only the International diesel gives you sure, simple, *seconds-fast starting* and *warm-up* in all weather—without "fooling" or fouling!

Size-up your big earnings from the big *bonus* of drawbar pull. Add up the big savings of labor, fuel and time—the cash worth of high-value, *extra opportunity* hours. See your nearby IH dealer for a demonstration.

INTERNATIONAL HARVESTER

International Harvester products pay for themselves in use—McCormick Farm Equipment and Farmall Tractors . . . Motor Trucks . . . Crawler Tractors and Power Units—General Office, Chicago 1, Illinois.

Send for Free Literature

International Harvester Company
P. O. Box 7333, Dept. SF-1, Chicago 80, Ill.
Please send free material checked.

- ☐ International TD-6 and TD-9 crawler catalog
- ☐ McCormick combination carrier, tool bar-dozer catalog
- ☐ McCormick No. 16 high clearance moldboard plow catalog

Name_____ ☐ Student
Address_____
Post Office_____ State_____
I farm_____ acres. Principal crops_____
My IH dealer is_____

"I suffered for weeks from muscle soreness...

And then I tried Ben-Gay", writes Mrs. Henry Super of San Francisco, Calif.: "With one application and the aid of my heating pad, the pain and soreness were relieved. After the second application, I awoke the next morning with not a sign of pain or soreness. I feel I can't praise Ben-Gay enough. I'll keep it handy always."

Countless people, like Mrs. Super, rely on Ben-Gay for fast relief from muscle aches and pains — and for good reason! Ben-Gay is different from any other pain-relieving product. It contains up to two and one half times more of two famous pain-relieving agents than any of five other widely offered rub-ins! When you rub in Ben-Gay, two things happen. First, extra blood is brought coursing up through the affected area. Second, a pain-deadening action starts instantly to bring warm, soothing relief.

When sore, aching muscles trouble you, use Ben-Gay for *sure*, trustworthy relief. Rub in Ben-Gay...rub pain away!

GIANT SHAGGY ASTERS
RED ★ WHITE ★ BLUE ★

3-15c Packets, ONLY 10c. 45c Value Red, White & Blue. Gorgeous 5 in. Blooms. 2½ in. thick, on stately stems. Send 10c for these lovely asters and will include Big Seed, Plant & Nursery Catalog. FREE

R. H. SHUMWAY Seedsman, Dept. 433, Rockford, Illinois

It's wonderful the way Chewing-Gum Laxative acts chiefly to

REMOVE WASTE-NOT GOOD FOOD

Here's a secret millions have discovered about FEEN-A-MINT, the wonderfully different chewing-gum laxative.

FEEN-A-MINT is different because you chew it. It's different, too, because it removes mostly waste—not good food! You see, FEEN-A-MINT does not work in the stomach, where your food is being digested. That's why it does not take away a lot of the good food you need for energy.

Doctors know that FEEN-A-MINT works chiefly in the lower bowel...removes mostly waste, not good food!

So to feel like a million, do as millions do. Chew delicious FEEN-A-MINT... and feel full of life and energy! Get FEEN-A-MINT...for as little as 12¢.

Feen-a-mint
THE CHEWING-GUM LAXATIVE

How to get a club room for teen-agers

Here's how the rural teen-agers in Kane County, Illinois, got their own private club room with a little money and lots of imagination and cooperation. Why not try it in your own community?

Photograph: Suter, Hedrich-Blessing

Fun aplenty, now that they have their own club room they fixed themselves—painted, built table-tennis unit, and made curtains

When residents of Kaneville, Illinois, see lively sprites dancing in the village schoolyard, they no longer believe their eyes are playing tricks. They *know* these flitting figures are their own substantial teen-agers, engaging in their favorite pastime at the "Teen Club."

Unlike many rural areas, where teen-agers have no organized objective entertainment, these teen-agers in Kane County have their own teen club and club room—in an old building which formerly housed the Woodmen's Lodge and in recent years had been a polling place.

The Teen Club of Kaneville came into being several years ago when rural boys and girls had a roundtable discussion with a group of Home Bureau women about "Helping Youth Face Today's Problems." The teen-agers listed their main problems for entertainment:

1. They wanted to have taffy pulls, hayrides, barn dances, and sleigh rides enjoyed by others in past years. But they realized that hayrides are too dangerous—even on most county roads—and most folks are too busy to help them fix up their barns for dancing.

2. They didn't feel they belonged any place. They had gone to grade school together, but had been split up to go to two different high schools, and didn't feel they had the chance to meet the urban teen-agers enough for social events. Lack of adequate transportation to get into town at all times was a problem here.

Mrs. Mabel Farley, the Kane County Home Bureau president, called a meeting at her home of teen-agers, parents, and Home Bureau members. That started the Teen-Club of Kaneville.

From then on, they've held square dances, doughnut sales, ice-cream socials, cooky sales, all kinds of tournaments—croquet, badminton, "crazy golf," and so on. With the income received from their food sales, they have almost enough money in their treasury to buy a jukebox and have also donated to charity drives.

Almost two years ago, the club members were overjoyed when they were able to latch onto an old building in the community for their club room. It was old, shabby—but the group's enthusiasm plus hours of scrubbing, painting, and generally renovating the gloomy old place paid off. When the teen-agers entertained their parents and guests at an open house, many of the older folks couldn't believe it was the same place.

After they got permission to use the building, each member scurried through family attics to revive "throw-away" furniture. With a chair from here and a chair from there, they found enough furniture to outfit the club room.

The only work the club hired done was the wallpapering. The girls made curtains for the windows; the boys pitched in to scrub floors, windows, and use paint brushes on the furniture. Since odds and ends of paint had been donated, the boys decided it would be fun to paint each wooden chair a different color.

And, any other group of teen-agers can fix up a club room, too, with not too much expense but lots of cooperation, work, and fun!

The new Bel Air Sport Sedan (one of two new 4-door hardtops) shown on the Pikes Peak road where Chevrolet broke the record.

Nothing without wings climbs like a '56 Chevrolet!

This new Chevrolet handles hills like they aren't even there! Aim it up a steep grade—and you'll see why it's the Pikes Peak record breaker!

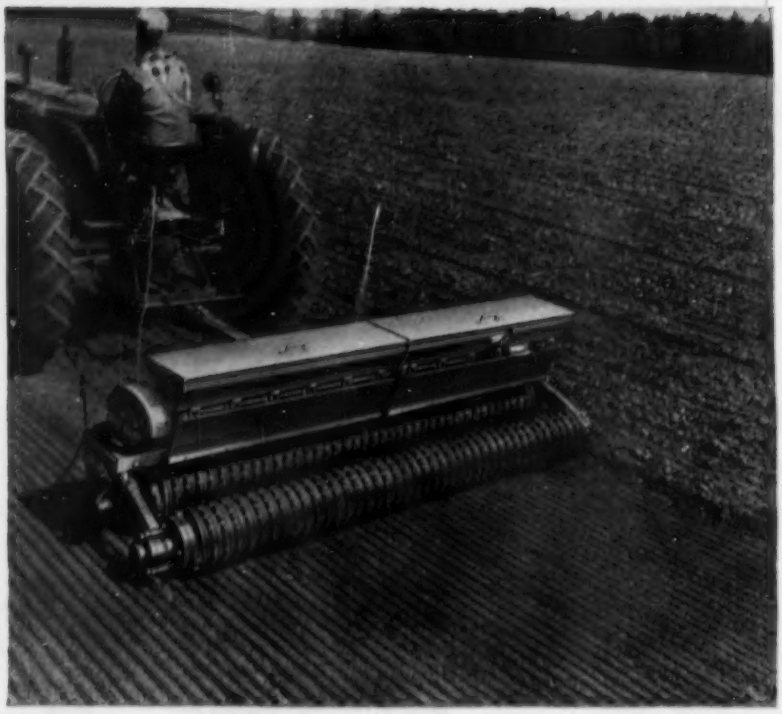
Ever level off a mountain with your foot? Nothing to it. Just point this new '56 Chevy uphill and ease down on the gas.

In the merest fraction of a second you sense that big bore V8 lengthening out its stride. And up you go with a silken rush of power that makes a mountain seem as flat as a roadmap!

For nothing without wings climbs like a '56 Chevrolet! This is the car, you know, that broke the Pikes Peak record. The car that *proved* its fired-up performance, cat-sure cornering ability and nailed-down stability on the rugged Pikes Peak road. And *all* these qualities mean more driving safety and fun for you whether the road's smooth or rough, flat or hilly.

You'll see that when you *drive* the new Chevrolet. You've 19 frisky new models to choose from, with new higher horsepower—ranging up to a top of 205! Borrow the key to one at your Chevrolet dealer's. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

THE HOT ONE'S EVEN HOTTER



Why pour on the seed when a "pinch" will do with a Brillion Sure-Stand Seeder

BRILLION Sure-Stand Seeders cut your seed cost by 50% . . . reduce the usual broadcasting and drilling requirements by ½ or more.

The Sure-Stand does it with Controlled-depth seeding. Every seed is placed within the top ½-inch of soil . . . close to moisture and nutrients. It germinates fast . . . grows strong and sturdy because it is tucked into a firmed, clod-free seedbed prepared by the specially designed, 2-inch notched packer wheels.

It is this once-over combination of accurate seed placement, crushing of lumps and clods, firming of the seedbed that assures a positive catch. It eliminates the seed waste and over planting so necessary with conventional equipment and attachments.

As a result, the Brillion Sure-Stand safely plants fewer pounds per acre and gets equal or bigger yields—in wet or dry seasons, on heavy or sandy soils.

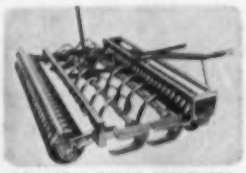
Your Brillion dealer has complete details on this seed saving, positive way to better stands of grasses and legumes. See him soon. For catalog and the Story of Grass write your name and address on the margin and mail the coupon below.

Brillion
SURE-STAND GRASS SEEDERS
5', 8' and 10' models

IF BRILLION MAKES IT, IT MUST BE GOOD

BRILLION ROTARY SHREDDER with friction-clutch knife control reduces shock of heavy cutting on bearings, gears, shafts. Easy pulling, easy handling. Heavy-duty design. 5-foot gathering width.

BRILLION PULVERIZERS have the weight, strength, and durability for tough soils and loose conditions. Dust sealed roller bearings for fast tractor speeds. Sizes and types to suit all operations.



BRILLION PULVI-MULCHERS crush both surface and buried lumps and clods in one trip. Cut discing and harrowing time. Dust sealed roller bearings. Five sizes: 6-, 7-, 8-, 9-, and 10-foot.

Clip and mail to Brillion Iron Works, Inc., Dept. SG-1-1, Brillion, Wisconsin
Send me complete information on the Brillion implements I have checked below:
☐ Sure-Stand Seeder ☐ Rotary Shredder ☐ Pulverizer ☐ Pulvi-Mulcher
Write your name and address on the margin.

State egg laws

From page 28

considerations) from competing with the local output. One or two have the earmarks of revenue producers, aside from funds needed to enforce the law.

Some people within the egg trade feel that egg laws are unnecessary. Their attitude—let competition and consumer approval bring prosperity to those who handle or sell good eggs, and doom to those who palm off a shoddy product.

Many others within the trade, however, feel that we need good egg laws to back up our quality programs.

By and large, the swing toward egg laws is a move in the right direction. This rash of new laws and amendments, along with those enacted within the past two to four years, provides unmistakable evidence that the quality caravan is shifting into high gear.

The producer has much at stake, although he is less aware of the functioning of these laws than the processors, wholesalers, and retailers. In most of the laws the producer is exempted when he sells eggs from his own flock, whereas other segments of the egg trade are subject at all times.

However, the producer, in some states, begins to feel the effects if he has an egg route in town. Nearly all of the flock owners begin to take notice as more handlers go onto a candling and grading basis, and the outlets for current receipts eggs grow fewer and slimmer.

So, these egg laws, and other elements contributing to the quality drive, will squeeze out more and more pin-money farm flocks. They will cause still more small-flock owners to climb a few notches higher and get into the semicommercial bracket, with perhaps 500, 1,000, or even more layers.

While the enforcement of high-quality standards will make it harder for the old-fashioned pin-money flock owners to keep going, many of them will cling to this traditional source of cash, long after all hope of real profits is gone. Others will cut down to just enough birds to supply the family needs. (In Indiana, it is estimated that only a little more than half the flock owners have eggs to sell.)

As for the truly commercial producers, they might seem to have the least to gain, for they already have been producing high-quality eggs. Still, leaders in this field say that the large-scale producers will benefit greatly through the elimination of many flock owners who tended to flood the market with inferior eggs and break the entire price structure.

The egg buyers, wholesalers, and retailers, are largely in favor of the general idea of egg laws. They favor laws that are not discriminatory and ones that can be effectively administered. They hope for —but don't always get—laws that are drafted with some understanding of the problems of processing, wholesaling, and retailing. Far too often, the trade received

little or no voice in the preparation of these measures.

People doing an interstate business want laws that allow a free flow of product across state lines. They would like to see far greater uniformity in the laws, for that would simplify their operations and benefit the entire industry.

There are reasons to believe that greater uniformity in egg laws eventually will come about. However, there is at least one practical obstacle—a difference in problems found in deficit and surplus areas.

It's hard to draft a measure that will please everyone, and even the best law written may hurt some individual or segment of the industry while helping the majority.

The quality program has put quite a crimp in country-store buying. For instance, since the new Iowa law took effect last summer, the number of licensed egg handlers has dropped from 5,300 to 2,900, with most of the drop-off consisting of country store buyers. Surprisingly, perhaps, 13 out of 14 interviewed said that they were glad to get out of the egg-buying business. Many of them had been buying eggs merely to attract farmer customers to their store. This new law, with its fees and other requirements, provided the excuse they needed for quitting.

Which states have good egg laws, and which haven't? People surveyed in the egg trade name Florida, Indiana, New York, Pennsylvania, California, and several others to the honor roll.

Why Florida? Because its administration seems exceptionally free of political manipulation; Pennsylvania—because it maintains quality and lets the egg trade do business with a minimum of irritation.

On the other hand, some of the egg laws have less commendable features. In some, the state of origin or other out-of-state designation must appear on the case regardless of how high the quality may be. The intent seems to be that of favoring local eggs to the point of virtually placing a stigma on out-of-state eggs.

Other states fail to make adequate provision for sale of Grade C eggs, which often have an interior quality equal to Grade A but are down-graded because of odd-shaped shells or some other flaw.

One state law specifies that the wholesaler is responsible for the quality of an egg for two days after sold to the retailer, regardless of whether the product is held under refrigeration. Eggs can't hold their grade under such conditions.

There is some complaint that inclusion of a prison term in the penalty for violation of an egg law is too severe and betrays a lack of horse sense when you consider the chances for error with a candler who handles 9,000 eggs per day.

And, as said before, a heavy sprinkling of lawmakers seems to forget that it takes money to administer an egg law, or that butter and fertilizer inspectors, for instance, are neither trained nor qualified for the technical job of inspecting eggs.

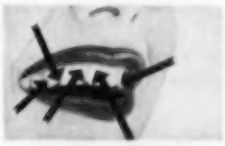
[*Turn to page 72*

What's New in Colgate Dental Cream that's MISSING-MISSING-MISSING in every other leading toothpaste?

It's GARDOL—To Give Up To 7 Times Longer Protection Against Tooth Decay ...With Just One Brushing!

GARDOL Makes This Amazing Difference!

MINUTES AFTER BRUSHING WITH ANY TOOTHPASTE



DECAY-CAUSING BACTERIA RETURN TO ATTACK YOUR TEETH!

12 HOURS AFTER ONE COLGATE BRUSHING GARDOL IS

STILL FIGHTING THE BACTERIA THAT CAUSE DECAY!

No other leading toothpaste can give the 12-hour protection against tooth decay you get with Colgate's with just one brushing!

Any toothpaste can destroy decay- and odor-causing bacteria. But new bacteria return in minutes, to form the acids that cause tooth decay. Colgate Dental Cream, unlike any other leading toothpaste,* *keeps on* fighting decay for 12 hours or more!

So, morning brushings with Colgate Dental Cream help protect all day; evening brushings all night. Gardol in Colgate Dental Cream forms an invisible, protective shield around your teeth that lasts for 12 hours *with just one brushing*. Ask your dentist how often to brush your teeth. Encourage your children to brush after meals. And *at all times*, get Gardol protection in Colgate Dental Cream!

*THE TOP THREE BRANDS AFTER COLGATE'S.

Cleans Your Breath While It Guards Your Teeth

EVERY GOOD DOG DESERVES

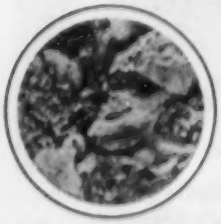
A LONGER PRIME OF LIFE

Start your dog on his way today with

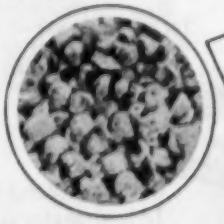
New Homogenized Gaines Meal

Eyes bright, spirits high, energy bounding—*living proof* of the sturdy good health you can look for just 30 days after you start your dog on Gaines. It alone contains every food essential your dog needs for *guaranteed uniform nourishment*. Feed New Homogenized Gaines Meal. It's rich in meat protein with the flavor that dogs love. Help keep your dog healthy and happy longer—the way you want him always *—in the very prime of life!*

SEE THE DIFFERENCE



Most other dog meals are largely flake-and-powder mixtures; nourishment not uniform, often pasty when wet.



Homogenized Gaines consists entirely of clean, uniformly nourishing nuggets. Mixes easily, can even be fed dry.

NOURISHES EVERY INCH OF YOUR DOG!

A Product of General Foods

State egg laws

From page 71

Here, briefly, is the way the Indiana egg law works—not because this act is ideal, but because it has 16 years of working history back of it.

The Indiana Egg Act was properly conceived in the first place—the idea being that an egg law, to be successful, must be democratic, free of politics, provide adequate revenue, and allow for qualified inspectors who inspect eggs only and are competent to discuss egg merchandising.

It was set up with a 7-man board, with representatives from the state agricultural experiment station, Indiana Farm Bureau, Indiana Chain Store Council, Indiana Poultry and Egg Improvement Association, Indiana Retail Grocers and Retail Meat Dealers Association, the wholesaler, and consumer. This board can revise grades and policies and make rules for advertising and merchandising.

Under the act, eggs can't be advertised or sold as fresh if they aren't, and no eggs can be advertised or sold if unfit for human consumption.

The law provides operating revenue from three sources—registrations, stamps, and permits.

The inspectors are trained for their jobs and spend full time on egg inspection. Their routes in each town are organized somewhat like mail routes, but the retailer and wholesaler never know when a visit will be made. Each inspector calls on about 30 egg-handling establishments daily.

Quite a few convictions have been made for violations, but usually the party caught with inferior eggs is given three choices: (1.) go to court; (2.) set up an efficient candling operation; (3.) buy from a wholesaler who does a good job of candling and grading.

As egg-quality education continued in the trade, fewer convictions were made. Last summer there were fewer violations than ever, despite a record number of hot days.

Egg laws the nation over tend to have several features in common:

1. Producers in nearly all cases are exempted if they sell eggs from their own flocks, although at least one law places a limit on the number of eggs sold this way. (Complaints are heard of producers who buy eggs for resale as their own.)

2. All egg laws outlaw the retail sale of eggs unfit for human consumption.

3. Most state egg laws use the U.S.D.A. standards of quality and grades with tolerances, (for each grade allows, say, two eggs per dozen of next grade lower to cover candling errors).

Egg-industry people in states with inadequate laws should make an effort to study the good and bad points in some of the other state laws. They can learn from the mistakes of others and profit from costly experience. Had more of this been done in the past, we would have fewer weak or inoperative state egg laws today.

CASE "400"

with Duo-Control Hydraulic System

Handy twin levers give you instant command of two hydraulic cylinders—one built in for Eagle Hitch 3-point mounted implements, the other a portable or remote ram. You can work them together, or separately. Besides finger-tip control of trailing implements, the remote ram provides selective or delayed action of cultivator gangs . . . sets the suction of mounted plows for "floating" depth control . . . operates hydraulic loaders. Case Duo-Control also provides limited down-pressure when desired to aid penetration. You have choice of engines—the Powrcel diesel that starts directly on diesel fuel, or the Powrdyne engine in models for gasoline, distillate, and LP-gas. Powr-Range transmission gives you eight overlapping gear speeds forward, and two reverse. See your Case dealer for demonstration of this dream to drive.

America's finest tractor for 4-plow farming

COMING . . . the Dynamic 3-plow

Look for breath-taking beauty . . . new driving comforts . . . countless new conveniences . . . when your Case dealer unveils the Case "300" Tractor. Expect flexibility and performance you never dreamed of finding in a 3-plow tractor. Ask about the Case Income Payment Plan. Write for folders . . . on the "400" now . . . the "300" to follow. J. I. Case Co., Dept. A-776, Racine, Wis.

CASE "300"

GOOD FARMING PAYS

WESTERN Sprocket PACKER & MULCHER

WESTERN SEED BED MAKER and SEEDER

KILLS CORN BORERS by pulverizing, mulching and firming soil on cornstalks that have been plowed under—corn borers are smothered in ground. Saves time, labor, horsepower, preparing ideal seedbed. Leaves surface mulch without grooves to help prevent washing. Seedbed conserves moisture—more seeds grow. Helps increase yields of all crops. SEEDBED MAKER has 3 in 1 Combination spring tooth harrow, sprocket packer and mulcher with seeder available. Leaves soil in ideal condition for any grass, clover or grain seed. Write today.

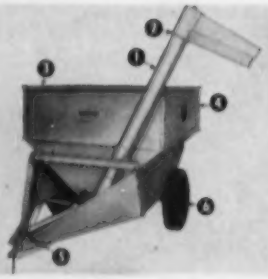
New Bear Cat COMBINATION Grain and Roughage Mill

No. 4A

TRAILER MOUNTED FOR POWER TAKE-OFF. Has traveling feed table. Especially designed for grinding or chopping larger quantities of loose or baled hay and any roughage. Comes with or without Trailer Mount and P.T.O. Both cutter knives and heavy swing hammers. Grinds any feed, wet or dry, snapped or ear corn, roughage bundles or baled flakes with farm tractor. Write for details.

WESTERN LAND ROLLER CO., Dept. 606-36
Hastings, Nebraska - Manufacturers

83 BU. ALL-STEEL AUGER UNLOADER



$295.00 F.O.B. LESS TIRES

COMPARE WITH ANY OTHER!

(1) 8 ft. front elevator unloads to either side or back into box, locks in positions automatically.
(2) 2½ ft. elevator extensions available for bin or self-feeder filling.
(3) One-foot side extensions give 100 bu. capacity; 83.2 bu. standard.
(4) Heavy-gauge steel box, 10 gauge frame.
(5) Quick-detachable PTO drive with safety sheer pin.
(6) Tandem axles available (extra). 15" drop center wheels.

HELIX CORPORATION, Dept. H-G, Grass Point, Indiana
Yes! . . . send me more information on your auger unloader.
Name.....
RR.....
Town & State.....

Tips for dairymen

Milk pipeline in use 5 years without taking down

The Illinois Experiment Station has kept a milk pipeline clean for 5 years without taking it down once. Here is their system:

Before each milking, use a cool-water rinse containing 200 parts chlorine per million. Immediately after each milking, flush with clean, lukewarm water until it runs clean. Then wash with a synthetic detergent solution heated between 140 and 150 degrees.

Follow by running through the pipeline either the original chlorine solution or water heated between 185 and 190 degrees. To prevent the formation of milkstone, use a synthetic acid pipeline detergent (instead of the regular alkaline detergent) after every fourth milking.

Open-pail feeding best in Pennsylvania tests

Dairy calves fed directly from an open pail on the floor drink their milk more rapidly than calves fed from nipple pails or nipple bottles, in a series of tests at the Pennsylvania Agricultural Experiment Station. In two of the three trials, the pail-fed calves made superior gains over those that were nipple-fed.

In this study calves were fed milk to 42 days of age, followed by a tapering-off period of 6 days. The methods studied were: open pail placed on floor, open pail elevated 10 inches off the floor, nipple pail, and nipple bottle.

Care and feeding of all calves were similar except for the method of feeding milk. There was no difference in the incidence of scours between the groups.

Paper mill by-products used to prevent ketosis

Feeding paper mill by-products to prevent ketosis in dairy cattle looks promising, according to a University of Wisconsin veterinary scientist, R. E. Nichols.

Paper mill by-products—sodium and calcium salts in lignosulfonic and wood sugar acids—resulted in better than 80 percent control of the disease last year in tests with more than 2,000 cows in 83 Marathon County herds.

The tests were conducted during the winter—a bad time for ketosis outbreaks. In 1954, 259 cases of ketosis were reported in the herds used for these tests. In 1955—when the paper mill by-products were fed as 2 to 4 percent of the ration—only 41 cases were detected.

Based on results with these wood sugars in the feed, Nichols believes the theory of upset sugar metabolism is the correct one. More research is needed on digestion of complex sugars in the lower parts of the digestive tract.

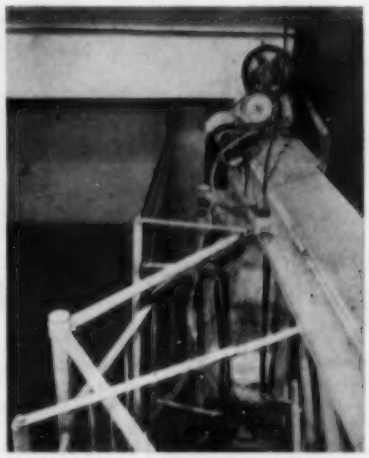
Limited amounts of this new preventive material will be marketed this year.

Feed system saves 122 miles of steps a year

This overhead automatic feeding system is worth $483 a year—10 times its original cost. And Jim Baird, Williamsfield, Illinois, has eliminated the lifting of feed when he milks his Holsteins.

Here's how Baird saved 122 miles of steps and 183 hours of labor in a year. His power unit is an old milking-machine gear box driven by a ¼-hp electric motor. With this he drags feed from a 125-bushel feedbin with a No. 45 chain through an 8-inch square chute. A reclaimed corn-sheller auger distributes feed to stalls in the bottom chute.

Baird fashioned a feed-measuring device by welding four pieces of 3/16" scrap iron to a ½" gas pipe. A glass window in the 8"x5" feed chute provides ample warning of a low feed supply. He then augers in more feed.



This overhead automatic feeding mechanism drags feed from 125-bushel feedbin with a No. 45 chain through an 8-inch square chute

Reclaimed corn-sheller auger distributes feed to stalls in the bottom chute. A quarter turn of handle measures one pound of feed for cow

Grating keeps floor clean

Photograph: Elam

A 2-foot square iron-bar grating helps keep the stall floor clean in Robert Riley's milking barn at Ballico, California. The rear quarters of his cows stand over these gratings while milking.

Under these gratings in each stall is a sloping shelf coming into the center from all sides. The lower end of the shelf funnels into a 4-inch tile pipe which connects to an under-the-floor drain line.

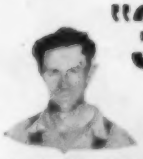
At each stanchion Riley uses water from a hose to clean the cow's udder. He also can immediately wash any droppings into the drain line which carries them into a manure sump. The sump is emptied at a later date and distributed as fertilizer on irrigated pastures.

This system allows for immediate and complete cleaning of the floor and makes certain that each cow comes into a clean stall. Pleasant working conditions and all-round cleanliness are the end results.

Front hitch
makes backing easier

Photograph: Pease

If you have trouble backing a 4-wheeled trailer into tight spots, save time by putting a hitch on the front of the tractor as Lewis Hibma of Brewster, Minnesota, does above



"3 RILCO buildings now... and I'd build RILCO again"

Says LAWRENCE BRUGGEMAN
St. Ansgar, Iowa

*Price based on first quality materials, and will vary according to locality.

"It's Rilco for me . . . every time I build," Mr. Bruggeman declares. "My machine shed, barn and chicken house are all Rilco construction . . . and if I build again, you can bet it'll be Rilco!" Mr. Bruggeman feels the sturdy construction of his Type 55 Machine Shed has given him a building that will "keep its shape . . . really stand up" in high winds and under heavy snow loads. The erected cost was actually less than most so-called economy type structures.

Before deciding on your next farm building, get all the facts on Rilco . . . then compare. You'll find the erected cost of a Rilco building is amazingly low. Rilco glued laminated rafters go up in hours instead of days. You save on labor . . . you get a stronger, better-looking, longer-lasting structure.

Rilco rafters are shaped and drilled at the factory . . . delivered ready for erection with all connection hardware furnished. They're made of selected, kiln-dried, West Coast Douglas Fir, permanently bonded together with waterproof glue.

*Price based on first quality materials, and will vary according to locality.

Shopping for a barn? Take a look at Mr. Bruggeman's Type 32 Barn. He says it gives him plenty of clear, unobstructed working space . . . with no posts to get in the way. Rilco construction will earn your stamp of approval, too, when you see it . . . price it . . . compare it with any type of construction. Get all the facts on Rilco from your local lumber dealer or mail coupon below. *Ask the Man Who's Built One!*

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Please send new free Rilco Barn Catalog and information on the following farm buildings:

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Power Seed Sower and Fertilizer Distributor

Fits all Tractors

Front or rear mount—P.T.O. or motor models for front or rear drive. Sows all smooth grass seed, grain, granular or pellet fertilizer. Ideal for cover crops. Hours of time saved. 1 and 3 bushel sizes. Extension hopper available for increased capacity. Easy to mount and operate. Send for free literature and informative grass land booklet.

THE CYCLONE SEEDER CO., INC. Urbana 8, Indiana

What can be gained by good crossbred hogs?

You can cut production costs with a sound crossbreeding program. But you can't cross just anything and expect results. It takes performance-tested foundation stock plus good feeding, management

Advantages of 3-way rotational cross

More pigs born alive per litter	0.8
More pigs weaned per litter	2.05
More pounds weaning weight per pig	3.00
More pounds weaning weight per litter	96
Fewer days to reach 220 pounds	17
Fewer pounds feed per 220-pound hog	36

Carcass yield of crossbred pigs

Carcass length (inches)	30
Backfat thickness (inches)	1.38
Carcass fat (percent)	43
Carcass lean (percent)	42

Overall advantages of crossbreeding

First cross (percent)	6.3
Backcross (percent)	7.5
Three-breed cross (percent)	11.7

By Dr. L. M. Winters
University of Minnesota

Today, 1956, the crossbreeding of swine for commercial production is almost as well accepted by most producers as the use of hybrid seed corn.

Ten years after the hog crossbreeding controversy started in 1935, *85 percent* of the hogs reaching our principal markets were crossbreds, according to estimates made by market representatives. This is an annual national advantage of about one-half billion dollars, subject to fluctuations in hog numbers and price.

In the chart at the left, we point out the advantages of a 3-way rotational cross, based on a number of our studies here at the University of Minnesota.

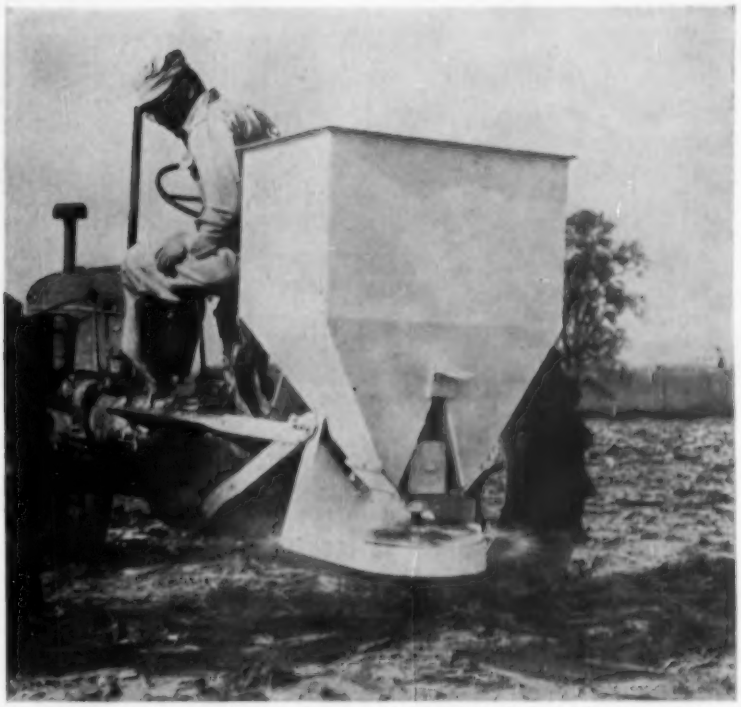
Here is a simple explanation of the 3-way continuous cross. In its use the farmer uses a boar of breed No. 1 on the female stock he has. Gilts are saved and bred to a boar of breed No. 2. Again, gilts are saved and bred to a boar of breed No. 3. The daughters of No. 3 are bred to a boar of breed No. 1 and so the system continues.

The logic behind the use of crossbred females is very simple. The bearing and rearing (including nursing) of young is as much physiological activity as survival and growth; hence if the hybrid state proves an advantage in survival and growth it should likewise be of advantage in pregnancy and nursing. Theory and the practical are in perfect accord.

Most people would like an overall estimate of the advantages of crossbreeding. This is extremely difficult to give with any degree of accuracy. An old friend of mine, well identified with the development of hybrid corn, often told me he did not like the figure of 20 percent advantage so often given for hybrid corn. He said the difficulty in arriving at such an estimate was that there are so many intangibles such as uniformity of ear height, standing ability, and root penetration. He said that in his opinion, these three, while affecting yield, actually far outweighed yield in importance. Yet, just how does one evaluate them?

The above question is equally pertinent to an evaluation of crossbreeding swine. In general, animals at experiment stations are better cared for than they are on [*Turn to page 90*

Plow-down fertilizer for corn? Sure!



An end-gate seeder is a fast, easy way to broadcast fertilizer for Spring plowdown. But for best results be sure to use free-flowing Spencer "Mr. N" Ammonium Nitrate.

Agronomists say spring plow-down gets fertilizer into root zone, helps decompose stalks, provides extra drought protection. Result: even bigger corn yields.

WHEN is the best time to fertilize your corn? Well, leading agronomists are pretty well agreed that plowing down Nitrogen in the Spring gives you the maximum return for your fertilizer dollar.

For example, Spring plow-down of Spencer "Mr. N" Ammonium Nitrate gives your crops vital protection in case of drought — protection they might not get if you wait and disk-in your fertilizer. You see, fertilizer needs moisture to trigger it into action. And plow-down gets your fertilizer deep into the root zone where it's sure of getting moisture — even in dry weather.

In fact, tests have shown that Spring plow-down of Spencer "Mr. N" can help corn survive an extra 10 days to two weeks in case of drought.

Besides giving you drought protection, Spring plow-down of Spencer "Mr. N" Ammonium Nitrate helps speed up the decomposition of your crop residues. This releases an extra supply of plant nutrients for your corn.

But that's not all. When you apply your "Mr. N" at Spring plowing, you have one less big job to do later on. And, if it rains before planting time, you won't have to worry about your spreader getting bogged down in the field.

So, your payoff from Spring plow-down can be mighty big. You'll get a return of three to five dollars in increased corn yields for every dollar you invest in Spencer "Mr. N". And Spring plow-down of "Mr. N" gives you the added benefits of drought protection, additional plant nutrients from decomposition of crop residues, and gets one big job out of the way before the rush.

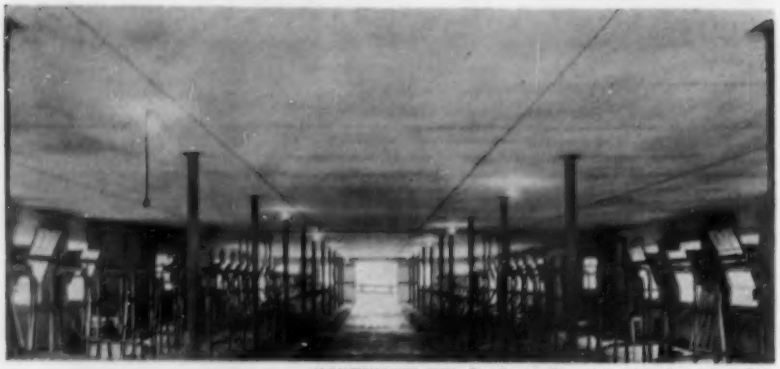
If your soil needs more nutrients than it can get from starter fertilizer, just plow-down mixed fertilizer with your Spencer "Mr. N".

You're probably planning to fertilize this Spring anyway, so why not fertilize when you'll get the greatest benefits? Plow-down your fertilizer and watch your corn come in faster, stronger. See how it stays vigorous and healthy even during dry weather.

But don't wait. See your fertilizer dealer this week. That way you'll be sure to have your fertilizer on hand when you plow.

And remember to insist on Spencer "Mr. N" Ammonium Nitrate. Spencer "Mr. N" is the only Ammonium Nitrate *guaranteed* to flow freely after a year of storage under proper conditions. And Spencer "Mr. N" is a full 33.5% Nitrogen. (Adv.)

Look for this bag at your fertilizer dealers. It's Spencer "Mr. N", the only ammonium nitrate guaranteed to flow freely even after a full year of storage under proper conditions. Spencer Chemical Co., Dwight Bldg., Kansas City 5, Mo.



MAINTENANCE-FREE. The Apac ceiling in the dairy barn shown here practically eliminates maintenance problems. Note its clean-cut appearance.

FIRE WON'T EVER BURN THIS CEILING!

K&M Apac Asbestos Sheets give farm buildings lasting fire protection

Made of asbestos and cement, Apac is permanently fire-resistant. You can use it on all kinds of farm buildings, and you'll find it surprisingly low in price.

Easy to handle. The standard 4′ x 8′ Apac sheets are easy to work with. Cut them on the job by simply scoring and snapping. No milling or planing. A hammer, some nails . . . and they're up!

Easy to clean. Apac is ideal for inside walls and ceilings of buildings where sanitary conditions are important. Wash it or scrub it down as often as you need.

See your lumber dealer for information on fire-resistant K&M Apac Wallboard. For free folder, write directly to us.

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K&M Built in asbestos ®

This Teat DILATOR CANNOT Absorb Infection!

Holds milk duct in normal shape for correct healing. *No other* device does this like scientifically-shaped, smooth, *flexible* BAG BALM Teat DILATORS. Will not dissolve, come apart or snag tissues. Packed 25 in medicated BAG BALM ointment. Fluted Dilator carries ointment in. At your dealer's, where you get KOW-KARE, KALF-KARE, BAG BALM. Write for NEW FREE 24-page Cow Book, "Care and Feeding of Dairy Cattle":

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BAG BALM Teat DILATORS

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ALL IN ONE COMPACT FARM IMPLEMENT

GRAIN-O-VATOR, the original self unloading and elevating farm wagon, now offers three complete models each designed for year 'round operation. All steel, gears enclosed, simple operation and maximum service makes GRAIN-O-VATOR "just the thing" for your farm. GRAIN-O-VATOR leads the field 5 to 1. For your "bulk" hauling and handling specify GRAIN-O-VATOR

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Write for four-color folder just off the press.

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Laughing at Life

Election Year Blues

Mack: "I can't honestly vote for any of these men on the ballot. I don't know a single thing about any of them."
Hack: "I feel the same. I know *a lot* about every one of them."

A Matter of Degree

Habit is hard to break for some men. For instance, many a man who worked his own way through college now is working his son's way through.

An Edgy Situation

Customer: "Shave and a haircut."
Barber: "O.K., and by the way, I hear you are the guy who's been running around with my girl."
Customer: "On second thought, just a haircut and forget about the shave."

Worth an Extra Quarter

For sale: 14-month hounds, ¾ hound and ½ Airedale. Gerald Doeppke, Elkader.—Iowa Farm Bureau Spokesman.

Some Adults Will Agree

A young mother was trying to teach her small son good table manners.

"Don't dip your bread in the gravy," she said, "it's bad manners."

"Maybe not good manners," replied the hungry lad, "but it's sure good taste."

Some Truth in This

A recruit's definition of a first sergeant: A big cuss who starts cussing you out right after you've been sworn in.

I Can't Win

If I'm there in a jiffy
When called to a meal,
It will always be cold cuts
With little appeal.
But as sure as I'm busy
And slow in the matter,
It's *steak* . . . and the children
Have emptied the platter.

—*Hal Chadwick*

SUCCESSFUL FARMING

"Aldo's Furniture? Do you carry full-length mirrors?"

Benson views problems

From page 39

adequate machinery for dealing with the current cost-price squeeze of agriculture? If not, what else is needed?

A. The Farm Act of 1954, which in the main followed legislation on price supports enacted in 1948 and 1949, sets up a workable program. Experience may demonstrate that some changes within this framework are necessary, but I believe the fundamentals will remain the same. It is a program looking toward helping agriculture to demobilize after years of wartime exertion for all-out production. However, the program is being given constant study and we may recommend that desirable changes be made.

Q. Will you have any "different" ideas to present to Congress in January for meeting the current farm income "crisis" or to help long-range adjustments?

A. I don't feel that the term "crisis" is appropriate. Its use would indicate that agriculture is in the dire straits of the 1930's and just prior to the outbreak of the second World War. That is definitely not the case. Certain recommendations for changes in farm legislation will no doubt be offered to Congress. I am constantly seeking sound solutions to our ever-changing conditions. I am not prepared at this time to give in any detail what I may recommend to the Congress.

Q. Do you feel there is any merit in any of the "different" proposals offered—the multiple-price plans; direct-payment plans, similar to the wool program; land-rental programs; or land retirement through expanded A.C.P. payments?

A. One could not condemn offhand any of the proposals which have been put forward in good faith to better conditions in agriculture. All of the proposals you mention contain some merit and are being fully explored. In almost every mail I receive new suggestions on farm problems. I am always happy to receive new ideas.

Q. Do you fear a return of fixed 90-percent-of-parity supports on basics?

A. *Farmers* should fear a return to high, fixed supports. It would mean an intensification of controls, loss of markets, and another build-up of stocks. As I have said before, rigid price supports encourage unrealistic patterns of production. As a matter of fact, the basic crops bring in only 24 percent of the nation's total farm income. The bulk of our farm income derives from other crops and livestock products.

Q. Do we need to know more about the capability of the farm land of our nation, as a basis for making more intelligent decisions in the farm program?

A. We have considerable knowledge about the capability of our land. However, we are striving to improve that knowledge through soil surveys, land mapping, and reports from the Soil Conservation Service and other agencies in the field.

Q. What do you regard as the outstanding accomplishments of your department during the past year?

A. Bringing production into closer balance with use has been a notable achievement. An outstanding example of this is dairying, which I mentioned before. The Farm Act of 1954 has been successfully put in operation and we have moved toward stability on nearly all fronts.

Winter wind

The winter wind danced all night long
outdoors, across the snow.
It twirled and skipped like
leprechaun
in mood fortissimo.
It laughed and shook the cedar
boughs,
sashayed with wild glee.
It pirouetted around the pines
then waltzed with chickadee
and winter goldfinch in the hedge,
as gypsy as can be.
I found its footprints, stenciled fine,
like deer-mouse tracery,
in the morning when I woke,
beneath the apple tree!

—**Frances Stockwell Lovell**

REGISTERED HOLSTEINS *Thrive Outdoors*

Even when the mercury goes *down*, rugged Registered Holsteins keep the milk flow *up*.

Pampering dairy cattle costs money . . . but that isn't necessary with Registered Holsteins. They're well adapted and produce efficiently in every section of the country.

Capacity to consume and convert low-cost roughages into milk, summer or winter, makes the difference today. It's Registered Holsteins that do the job.

Registered HOLSTEINS *Breed of the Times*

THE HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA
BRATTLEBORO, VERMONT

Tempt winter appetites with

Piping hot meat pies

Meat pie on the menu means a warm reception at the table of any farm home. These bubbling hot casserole dishes, shown at the left, turn leftovers into something extra special. You have a choice of meats and vegetables that can be used—just about any kind can be dressed up so you won't realize that it's making a second appearance. Take your pick of crusty toppings. Select one that adds a touch of color, a bit of flavor, and you'll end up with a lot of good eating.

The secret of a good meat pie is not to overcook the meats and vegetables. For light fluffy toppings, place them on the hot-meat mixture to bake. Cook vegetables just until done, or if already cooked, just heat through.

These recipe suggestions will taste mighty good when you serve them for dinner some of these chilly evenings.

By Mary K. Farnen

Ham Pie with Cheese Pastry *(lower left)*
(Makes 6 servings)

1 can condensed cream of celery soup
½ cup milk
2 cups cooked cubed ham
1 cup cooked diced potatoes
1 cup frozen peas

• • •

2 tablespoons shortening
1½ tablespoons grated Parmesan cheese
½ cup grated sharp processed cheese
½ cup sifted flour
¼ teaspoon salt
1 tablespoon milk

Combine soup and milk and mix until blended. Add ham, potatoes, and the peas, which have been plunged in cold water just till separated. Place in 1½-quart casserole. Bake in hot oven (425°) 15 minutes. Top with *Cheese Crust:* Cream shortening and stir in cheeses. Sift flour and salt together and add to cheese mixture. Add milk to make a stiff dough. Roll into circle and cut into wedge shapes. Place atop casserole and bake 15 to 20 minutes longer.

Chicken Pie with Caraway Biscuits
(upper left) (Makes 6 servings)

1 can condensed mushroom soup
½ cup milk
1 10-ounce package frozen peas and carrots
¼ cup chopped onion
2 cups cooked chicken, diced

• • •

2 cups sifted flour
3 teaspoons baking powder
½ teaspoon salt
1¼ teaspoons caraway seed
1 tablespoon chopped parsley
¼ cup shortening
¾ cup milk

Combine soup with milk and beat until blended. Add peas and carrots, onion, and chicken and mix well. Heat through. Pour into 10x6x1½-inch casserole. Bake in hot oven (425°) 15 minutes. Top with *Caraway Biscuits:* Sift together flour, baking powder, and salt. Add caraway and parsley. Cut in shortening till it resembles coarse crumbs. Stir in milk, mix lightly. Knead 6 to 8 times on lightly floured surface. Roll ½-inch thick into a rectangle 8x5 inches. Cut into 6 square biscuits and place atop chicken pie. Bake in hot oven (425°) about 20 minutes. Garnish top with slices of stuffed olives.

Pork Pie *(in small casseroles)*
(Makes 6 5-inch pies)

Crust:
3 cups sifted flour
1 teaspoon salt
¾ cup grated sharp cheese
1 cup shortening
6 tablespoons cold water

Sift together flour and salt. Mix in cheese. Cut in shortening till it resembles coarse crumbs. Add water, a tablespoon at a time, until dough is just moist enough to hold together. Roll out ⅛ inch thick. Cut out 6 7-inch circles and line individual casserole bakers, letting pastry hang over rims ¼ inch. Fill with ½ cup filling. Cut 6 circles 5 inches across; cut 3 slits in each. Moisten edge of bottom crust and place top crusts over filling. Crimp edges. Bake in a hot oven (450°) about 20 minutes.

Filling:
2 cans frozen cream of potato soup, thawed
1 cup milk
3 cups cooked pork cut in ½-inch cubes
½ cup finely chopped onion
½ teaspoon celery salt
Dash sage
Dash pepper
1 tablespoon lemon juice

Combine soup with milk; add remaining ingredients and mix well. Pour about ½ cup into individual pie shells and bake as directed in crust recipe.

Beefsteak Pie *(lower right)*
(Makes 6 servings)

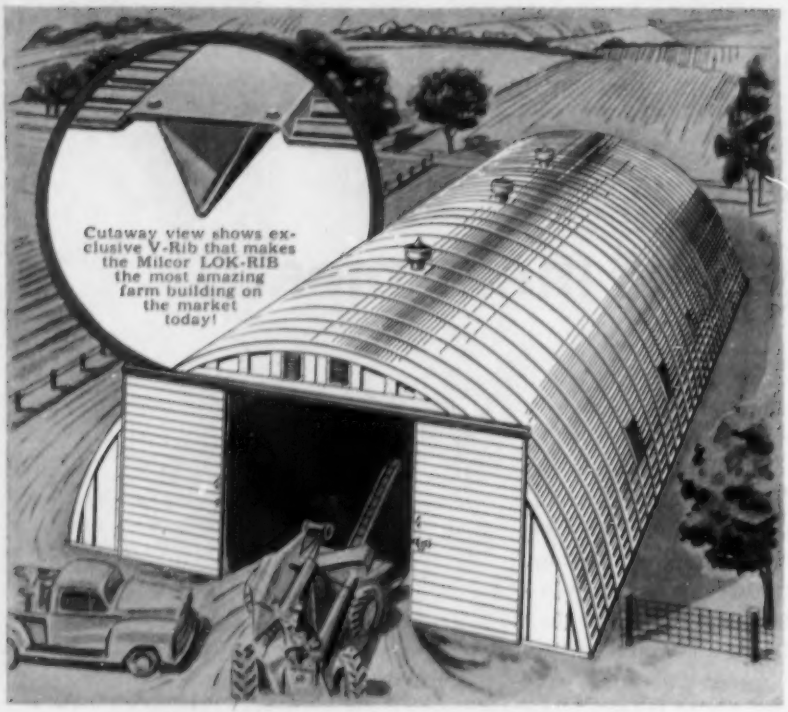
1 pound lean beef chuck, in 1-inch cubes
⅓ cup flour
1 teaspoon salt
Dash pepper
2 tablespoons fat
1 1-pound can (2 cups) cut green beans
3 small onions, quartered
1¾ cups canned tomatoes
2 teaspoons Worcestershire sauce
Seasoned mashed potatoes
1 or 2 beaten egg yolks

Shake beef cubes in flour seasoned with salt and pepper. Brown slightly in hot fat. Drain green beans, reserving liquid. Shake leftover flour over beef cubes. Add onions, tomatoes, liquid from green beans and Worcestershire sauce. Simmer till meat is tender, 2½ to 3 hours. Add green beans and pour into 1½-quart casserole. Beat mashed potatoes with an egg yolk; press through a large pastry tube around edge of casserole. Brown in very hot oven (450°) about 15 minutes.

Quick Meat Dumplings (Makes 4 servings)

1½ cups sifted flour
½ teaspoon salt
⅓ cup shortening
3 tablespoons water
1 1-pound can corned beef hash
2 tablespoons finely chopped onion
2 tablespoons finely chopped green pepper
1 teaspoon Worcestershire sauce
¼ cup chili sauce

More recipes on page 82



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are factory-engineered and mass-produced to give you a top-quality steel building at a practical price

Milcor's interlocking V-Rib is the feature that makes the LOK-RIB Building completely different from any you've seen before. And only Milcor LOK-RIB has it. Because of it — you get these advantages:

EXTRA-STRENGTH—The interlocking V-Rib provides a box girder every two feet of building length. It's the kind of strength you want — the kind of strength you need to withstand heavy winds, heavy ice, unusual snow loads.

NO COSTLY FRAMING—Every Milcor LOK-RIB panel is both exterior sheathing and interior framing. You save high framing costs and get a roomier post-free interior for convenient housing and storage.

LONGER LIFE—Every panel is heavy, 18-gauge, Ti-Co galvanized steel. It's rugged and tough — gives you many years of protection.

QUICKER ERECTION — Because of simplified design and fewer parts, the Milcor LOK-RIB goes up in a fraction of ordinary building time. And only simple hand tools are required.

PRE-PUNCHED — Every part is accurately matched and pre-punched at the factory. You save the time of costly field drilling usually spent in erecting ordinary buildings.

PRECISION FIT — Mass production makes sure that every part fits its neighboring part without trouble.

Ask your nearest Milcor LOK-RIB dealer to tell you the other advantages of this truly different structure. For the Milcor LOK-RIB is not just another farm building — it's a building constructed on an entirely new principle that makes all other buildings old-fashioned. Use the coupon for complete information.

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Name.....Address.....
City.....County.....
Zone or RR #.....State.....

Piping-hot meat pies

From page 81

Sift flour and salt together; cut in shortening till the mixture resembles coarse crumbs. Add water gradually and mix. Roll out pastry ⅛ inch thick and cut into four 6-inch squares. Mix corned-beef hash with onion, green pepper, and Worcestershire sauce; divide into 4 patties. Place each patty on a pastry square. Top each with 1 tablespoon chili sauce. Bring corners of pastry together and seal. Bake in hot oven (425°) about 20 minutes.

Dutch Oven Meat Pie
(Makes 6 to 8 servings)

- 1 pound lean ground beef
- 1½ teaspoons salt
- ½ teaspoon pepper
- 1 tablespoon fat
- 1 clove garlic minced
- 1 1-pound can (2 cups) tomatoes
- 2 tablespoons parsley flakes
- 1 recipe *Cheese Dumplings*

Cook ground beef until browned. Mix beef with salt, pepper, and garlic. Add tomatoes and parsley flakes and heat for about 10 minutes. Mix *Cheese Dumplings*, drop on meat by spoonfuls, then cover with tight-fitting lid, and cook about 15 minutes.

Cheese Dumplings

- 1 cup sifted flour
- 1½ teaspoons baking powder
- ½ teaspoon salt
- ½ teaspoon dry mustard
- 2 tablespoons shortening
- ¼ cup grated American cheese
- ½ cup milk

Sift together flour, baking powder, salt, and mustard. Cut in shortening till mixture forms coarse crumbs. Add cheese. Stir in milk just until flour is moistened. Drop by spoonfuls on meat pie and bake as directed.

Tomato-Herb Stew (Makes 4 to 6 servings)

- 2 pounds beef stew meat, cut in 1½-inch cubes
- 1½ teaspoons salt
- ½ teaspoon pepper
- ½ clove garlic, crushed
- ½ teaspoon ground marjoram
- ½ teaspoon ground thyme
- 1 10-ounce can (1¼ cups) tomato puree
- 3 cups water
- 5 medium carrots, cut in chunks
- 5 medium onions
- 1 teaspoon salt

Dip meat in flour and brown well in hot fat. After browning, sprinkle with salt and pepper. Add garlic, herbs, tomato puree, and water. Stir well, bring to a boil, then turn heat low. Simmer, covered, for 3 hours. Add carrots, onions, and 1 teaspoon salt, and continue simmering for 45 minutes longer. Thicken liquid with paste made of 3 tablespoons flour and ¼ cup water.

You can make a biscuit topping for this, if desired. Then bake the last 20 minutes in a hot oven (425°). For variety make tomato biscuits by using tomato juice for the liquid. Bake extras at same time.

Your MoorMan Man can show you

HOW THOUSANDS MAKE 100 lbs. OF HIGH-ENERGY LOW-FIBER CHICK STARTER

for only $3.10 out-of-pocket cost

IT'S EASY—LIKE THIS!! You simply put 200 lbs. of **your own good yellow corn** with 100 lbs. of **MoorMan's CoxiCurb* Mintrate* for Starting and Growing Chicks.** You'll then have 300 lbs. of the highest energy, lowest fiber chick starter obtainable. With corn at $1.20 a bu., your total ingredient cost for 100 lbs. of complete chick starter will be only $4.54. **And your out-of-pocket cost is only $3.10 for a hundred pounds of complete chick starter.** (*At 6 to 8 weeks you can use 300 lbs. of corn with 100 lbs. of Mintrate—further reducing out-of-pocket cost to $2.33 per hundred pounds of feed.*)

HERE'S WHAT 513 FLOCK OWNERS WITH 158,133 CHICKS, IN 13 STATES REPORTED CHICK MINTRATE DID FOR THEM IN 1955

On the average, for chicks at 8 weeks of age, they produced a pound of chicken with 2.34 pounds of feed.

. . . These same feeders at today's feed prices would have produced a pound of chicken at an average feed cost of 10.64 cents a pound.

HERE'S WHY CHICK MINTRATE CAN PRODUCE SUCH LOW COST GAINS

MoorMan's Mintrate for Chicks is a refined and concentrated combination of minerals—complete, balanced and formulated for baby chicks . . . Vitamins A, D, the B Vitamins plus Vitamin K to protect against hemorrhagic conditions . . . proteins . . . antibiotics. It actually helps chicks extract more nutritional value from your corn . . . makes that corn produce more chicken faster . . . gives chicks a fast start and low-cost rapid gains. Available with or without a coccidiosis control ingredient.

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MoorMan's Chick Mintrate is based on 50 years of research.

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Low fiber content (less than 3%)
Out-of-pocket cost per hundred pounds
Total cost to produce a pound of chicken

When you make this comparison then you, too, like thousands of others, will switch to MoorMan's in 1956. Ask your MoorMan Man to show you how—or write Moorman Mfg. Co., Dept. R 61, Quincy, Ill., for complete details.

MoorMan's * 71 years of friendly service helping livestock and poultry make better use of home-grown feeds.

(Since 1885)

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- REDUCES incidence of scours.
- STIMULATES up to 20% faster growth.
- PROMOTES smooth, sleek coats.
- HELPS ASSURE strong, healthy calves.

ADD to Milk or Milk Saver during first 8 weeks. Contains fully recommended dosage of Chlortetracycline (Aureomycin*) Hydrochloride, Vitamin B-12, Pectin. *Trademark

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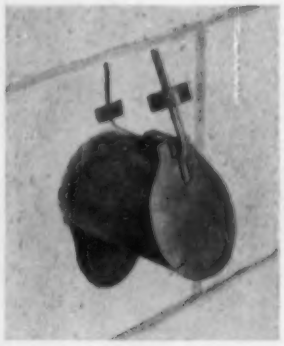
Sled-mounted grinder driven by power take-off from tractor eliminates the problem of slipping belts.

Charles and John Veneable, father and son, of Winchester, Kentucky, quickly move grinder the length of crib or from one farm to the other. By taking the mill to the feed, they have cut their labor requirements.

Sled-mounted elevator moves ground grain to feed wagon which hauls feed to feeding area.

Side panels built to fit as a partial hood keep this tractor's motor warm when it is idle for a short time during cold weather. This makes for easier starting and less wear on the tractor's motor.

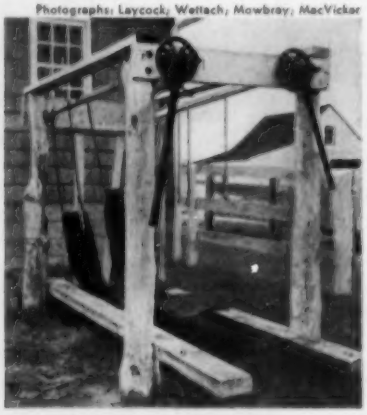
Arthur Hudacheck, West Liberty, Iowa, made the panels from sheet metal. Panel is fastened to tractor with 4 clamps. Edges are slightly rolled.



Exhaust outlet keeps farm shop free of exhaust fumes. Don Asbury, Warren County, Ohio, runs a flexible pipe from motor's exhaust to outlet. The slightest exhaust pressure opens counter-balanced lid.

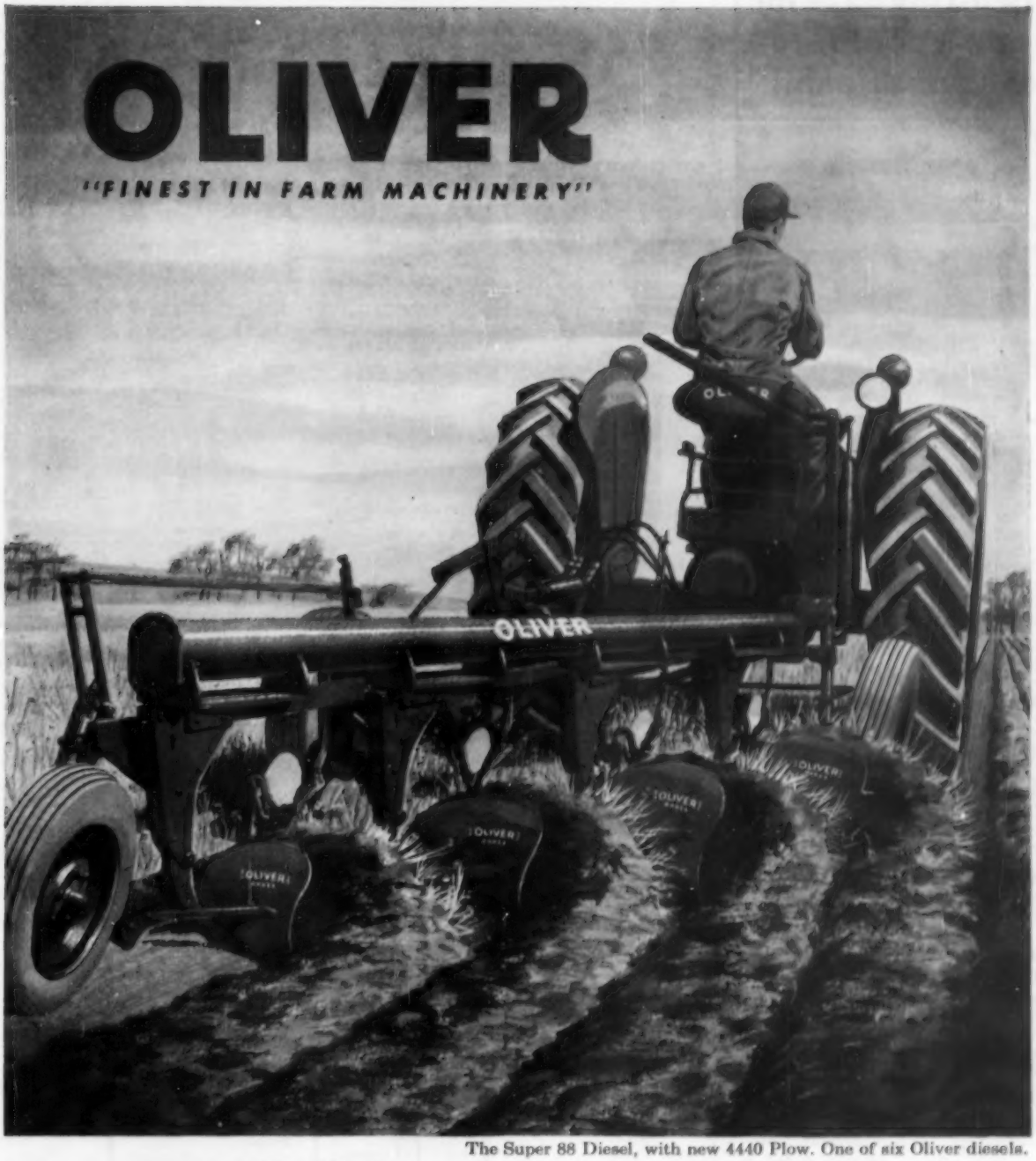
Photographs: Laycock, Wettach, Mowbray, MacVicker

Litter carriers with slides over slits cut in bottom make grain feeding easy. Feed bunks are lined up under track. Fred E. Anderson, Gladstone, Illinois, controls feed outlet by changing position of slide.



Serviceable livestock stocks needn't be expensive nor difficult to build. Edwin Fry, Laytonsville, Maryland, used ratchet wheels from an old manure spreader for the raising and lowering device.

Belting from an old baler supports the animal. By merely working the levers forward and backward, chains attached to this belting are wound around 3-inch pipes running the full length of the stocks.



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Pocket 44¢ every hour!

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Pulling four bottoms, a gasoline tractor will burn some four gallons an hour. The Oliver diesel, about two and a half. What's gas worth where you live? And diesel fuel? At average prices, the saving comes to 44¢ an hour. With you, it might be less, it might be more—*a saving of two-thirds the fuel cost is not unusual.* Important, too, are the fuel savings on other farming operations requiring less power than plowing.

Another money saver: your Oliver diesel requires no extra engine for starting. No special fuel. Just step on the starter and go to work.

Size? Name it! Oliver—and *only* Oliver—offers you dollar-saving diesel power in all its wheel tractor sizes. Nor can any other diesel match all the Oliver features—features that save on upkeep, save on time, save on *you*.

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They moved downstairs

What would you do with an old house that had plenty of room and a seldom-used upstairs? Take off the top floor? That's what this family did. It's an idea for you to consider

Photograph: Pease

After. It's hard to believe this is the same house as the one below. Now it has a front door facing the drive—guests naturally come to it; an office near the rear door; a kitchen with a view of the drive and farm buildings; and stairs convenient to the rear door and kitchen. A wash-up area is in the basement

Before

The old farmhouse was typical of those built in its day. The front door was seldom used because it was inconvenient, rear door entered directly into the kitchen. Result—visitors entered house through "handy" kitchen door and all traffic was through work areas

By David Flynn

A farmhouse in need of remodeling for convenience and worksaving and a seldom-used second floor was the problem facing the Arnold Isher family of Monmouth, Illinois. Their solution? Take off the second floor and build in the needed convenience on the first floor. The result is dramatic as shown above.

The things the Ishers like best about their remodeling project are these:

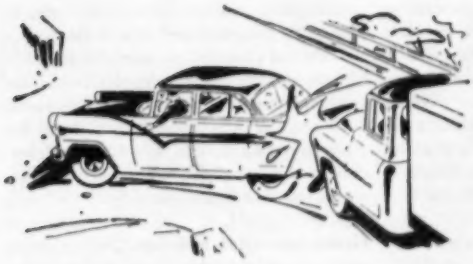
They were able to use the old foundation, though the basement floor had to be lowered; the den, made from the old pantry, provides office space for the business of farming and home planning; the windows need no storm sashes to put on and remove every year—the glass is the double pane, insulated kind, and screens are self-storing.

Also, Mrs. Isher has a fine view of the highway from dining and living rooms, both bedrooms can take advantage of the southwest summer breeze, and there's an abundance of closet space.

MORE FARM AND RANCH CAR OWNERS INSURE WITH STATE FARM MUTUAL THAN ANY OTHER COMPANY IN THE WORLD. *Why?*

Policyholder W. S. Rogers, Ainsworth, Nebraska, says:

"State Farm Mutual is wonderful auto insurance to have back of you when an accident occurs!"



Mr. Rogers, a rancher, was rammed by a truck. It was his first serious accident . . . and it was a revelation to him to discover how State Farm *shoulders the worry* and *stands stoutly back* of its policyholders.

He later wrote us:

"I just want to tell you how pleased I am. Your agent was prompt in seeing me and in getting in touch with your adjuster. The settlement they made was prompt, courteous, and very satisfactory."

And State Farm sells insurance to farmers and ranchers at extra-low rates!

Here at State Farm Mutual, the "careful driver insurance company," we know the excellent accident experience of millions of careful rural drivers. That's why we can offer you outstanding protection at low rates . . . much lower rates than drivers who have to live with bumper-to-bumper traffic every day.

More than 3½ million car owners—including car and truck owners on farms and ranches in 42 states and Canada—now buy auto insurance from State Farm Mutual. No other company in the world insures so many cars . . . no other company can offer such far-flung, friendly claim service. At home, you always deal with the man who sold you the policy. Away from home, you get the same fine service from any State Farm agent—all 7,000 of them are pledged to treat you as a personal client.

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J. H. SHIVERS, Box MS-06, Alton, Md.

Tips for planning

Garden newcomers. You'll be interested in these All-America selections for 1955. Each year, in trial gardens throughout the country, the most promising new flowers, vegetables, and roses are tested and judged by experts.

The new 1955 vegetable winners are Seminole bush snapbean, Golden Beauty sweet corn, and Pennsweet muskmelon. The corn and melon are regional recommendations for the northern states and Canada. Seminole is an all-purpose snapbean for gardens everywhere.

The 1955 flower winners are Prima Donna petunia, Toreador celosia or cockscomb and McKanna's Giant columbine or aquilegia. They are generally recommended and seed should be obtained from your favorite seed firm.

Three brilliant new roses received the All-American Rose Award for 1955. They are Jiminy Cricket, a floribunda of coral-orange; Queen Elizabeth, a grandiflora of delicate, pure pink; and Tiffany, a hybrid-tea of warm, clear pink.

Many-purpose insecticide. Malathion, the multipurpose insecticide, enables home gardeners to control most major insect pests attacking flowers, shrubs, trees, and garden vegetables and fruits.

By using it at regular intervals beginning early in the growing season, garden pests can be taken care of before they have a chance to build up to damaging numbers.

The U. S. Department of Agriculture also reports malathion to be a highly effective fly killer—even against species which have become resistant to other chemicals such as DDT.

Hybrid spinach coming. Hybrid spinach is soon to join the ranks of other crops where hybrids have proved so successful in recent years. Methods are now available that will make the production of hybrid spinach seed economically feasible.

The experiments conducted by A. E. Thompson, University of Illinois, show considerable increase in yield over open-pollinated varieties and inbred lines.

Over two harvest seasons, 12 hybrids had an average increase in yielding ability of 16.3 percent over three varieties and 23.5 percent over eight inbred lines. In pounds per acre, the average yield increase of the hybrids over the varieties was about 1,200 pounds.

First-generation hybrids. Onions, peppers, tomatoes, cucumbers, and squash, as well as corn and other vegetables and flowers, are now bringing improved yields, uniformity, and other desirable plant qualities through development of "first-generation hybrids."

They necessitate considerable extra

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SIZE OF GRAPEFRUIT FOR EASY REFRIGERATOR STORAGE 15¢ pkt
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"We've Won Thousands of Warm Friends with Our Earlibell TOMATO From Seed to Table in 63 Days!"
Now you, too, will find it fun to grow all your family's tomatoes—*right from this fine free seed!* These are our well-known Gurney's EARLIBELL, fast, sure growers, big producers—luscious, crimson fruit—smooth and don't split easily. Vines, too, are thrifty for shade to prevent sunburn. Yours for a season of delicious tomatoes!
GURNEY'S EARLIBELL! Ideal for slicing, salads, canning!
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Yes, send me these Earlibells! And your new, free catalog, too. Here's my 3¢ stamp.
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your 1956 garden

work in producing seed crops through inbreeding of parent stocks and final crossing for the first-generation hybrids. Naturally, such seed costs more than "open pollinated" or naturally crossed seed crops but good hybrids are more than worth their extra cost.

Depend upon reliable seed firms for the hybrid varieties adapted to your climate and section. A number of recent All-America Selections, flowers, and vegetable variety winners have been first-generation hybrids.

Strawberry care. Timely application of maleic hydrazide sprays during summer months can prevent an overabundance of strawberry runners and runner plants.

Strawberry plants often produce so many runners that overcrowding results in lower berry production. Experiments at both the University of Delaware and Iowa State College show that maleic hydrazide sprays applied in late summer greatly reduce runner production without serious damage to plants already rooted.

In Iowa, further effects were noted the following spring when early yields were increased 32 percent, berry size was increased by 12 percent, and yields of marketable berries were doubled in the treated rows.

Hand-pruning of runners after sufficient runner plants were formed also increased yields and berry size to about the same degree as the chemical sprays. However, Dr. E. L. Denisen, horticulturist at Iowa State College, says hand-pruning of runners requires considerable labor, whereas chemical runner inhibitors offer possibilities for greatly reducing strawberry production costs.

Dwarf fruit trees. They continue to gain acceptance, being well adapted to gardens where space is limited or use as ornamentals along shrub borders.

Besides requiring only little space, they bear at an early age, and are easy to prune and spray. The fruit is generally above average size, highly colored, and easy to harvest.

Dwarf apple trees stay small, reaching a height of only 8 or 10 feet at 10 or 20 years of age. These trees may bear as much as 2 pecks of fruit the second year after planting.

Expensive equipment is not needed to spray these trees. Home-size equipment such as a 3-gallon knapsack sprayer is sufficient, providing a sound spraying schedule is followed.

Pruning is easily done with a good pair of hand snips. Most of the pruning should be aimed at trimming out excess branches in the body of the tree. Care should be

[*Turn to page 91*

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GIANT BEEFSTEAK TOMATO

The Nation's Favorite For Home Gardens. Almost Seedless. Large handsome bright red fruits, average ¼ lb. Skin is smooth and just thick enough to prevent cracking. Flesh is thick-meated and firm like good beef-teak from which it received its name. Send 5c stamp for 125 seed, 25c value of this Giant Beefsteak Tomato. Will include Copy of Big Seed & Nursery Colored Catalog FREE

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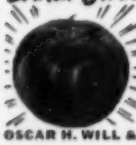
"HOW TO SAVE MORE PIGS"
a 35mm. film strip, has been prepared by the editors of Successful Farming. Prints with commentary available at $2.25 from Successful Farming, Des Moines.

EARLY GIANT HYBRID TOMATO



This strong, 60-day, heavy yielder is one of the largest, early fruiting tomato hybrids available. Deep red, globe shaped, meaty and free of white core. Bears over a long period in large clusters. Pkt. only 25c. Write for WILL'S BIG FREE 75th ANNIVERSARY CATALOG NOW.

25¢ PKT.

OSCAR H. WILL & CO., Box 600-N7, Bismarck, North Dakota

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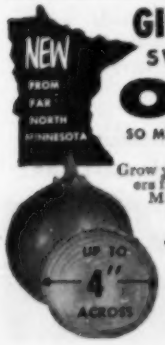
GIANT HYBRID SWEET SPANISH ONION



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1 YELLOW—1 ORANGE—1 RED
Colorful beauty right up to frost

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Yes, I'd like those three packets of Zinnia seed. Don't forget my copy of your new catalog. My 3¢ stamp is enclosed.

Name.....

St. or Rt.....

P.O.....State.....

"For Over 60 Years!"

Crossbred hogs

From page 76

many farms, (but not as well cared for as on some farms). If then there is anything to hybrid vigor, we have reason to expect that the percent advantage under adverse conditions will be *greater* than under a more favorable environment. Apparently, this is the reason many farmers find a greater advantage from crossing than our experiments indicate.

We can get something of an estimate of the advantages of crossing by averaging the percentage advantage for each of the measurable characteristics. They are: Number born alive, number that survive, growth rate, feed required per unit of gain, and carcass quality.

The value of improved carcass quality has been in a "state of flux." It is often difficult to obtain carcass measurements.

Last winter a farmer friend marketed a load of Minnesota 2x1x3 crossbred pigs. We tried to get carcass data but were refused on the basis that it was too poor a lot to justify gathering carcass data. A comparable load was marketed at another point, the carcasses yielding the following data:

Carcass length (inches)	**30**
Backfat thickness (inches)	**1.38**
Carcass fat (percent)	**43**
Carcass lean (percent)	**42**

It would be difficult to know what more to ask for in carcasses.

Because it's extremely hard to arrive at a satisfactory estimate of carcass value, this over-all appraisal includes *only* number born, number reared, growth rate, and feed per 100 pounds of gain. An average of these four factors gives an over-all advantage as follows:

First cross	**6.3 percent**
Backcross	**7.5 percent**
Three-breed cross	**11.7 percent**

It makes a usable figure but does not measure the real advantage to the farmer. For instance, the 17 fewer days required to get the pigs to market often makes the difference between profit or loss.

No discussion of crossbreeding swine would be complete today without reference to the use of the new breeds developed by inbreeding and Record of Performance (R.O.P.) testing. In many respects, crossbreeding in swine is following the pattern of hybrid corn.

In the development of hybrid corn, once it was established that it had practical value, the next step was to develop more useful lines for crossing. The same is true with swine. Once the value of crossing was well established, the next step was to develop lines especially designed for the job. That is the stage we are in at the present time.

Here at Minnesota we have developed two lines, the Minnesota No. 1 and Minnesota No. 2, and a third is well along in development.

The next question then is: What will crosses of these new inbred lines do in producing high-quality pork efficiently? The figures below tell their own story:

In the fall of 1954, 26 Minnesota No. 1 sows farrowed litters by No. 2 boars. The litters averaged 10.12 pigs born alive and 9.35 pigs weaned. The weaning weight at 8 weeks averaged 51.85 pounds.

Following weaning the pigs were used in a feeding trial; 48 were self-fed a good balanced ration and averaged 200 pounds when 136 days old. The average daily gain from weaning to 200 pounds was 1.83 pounds. The feed per 100 pounds of gain on dry lot was 343 pounds. They were slaughtered at an average weight of 203 pounds. The carcass length was 30.93 inches, average backfat 1.43 inches, percent carcass fat 43.18, and percent carcass lean 41.68.

Stephen Osborn, a farmer at Lake City, Minnesota, during the winter of 1954 raised a crop of 400 Minnesota No. 3-1 crosses. They were marketed at an average weight of 200 pounds when 140 days old. In 1954-55 Osborn had Minnesota 2x1x3 crosses. He did not have detailed records on their rate of gain but it was about the same as on the previous crop of 3-1's.

Because of the foregoing I have no hesitancy about advocating crossbreeding and about using the new breeds in making the crosses. Representatives of the new breeds should, however, be backed with R.O.P.-tested stock.

Hy-Line
REG. U. S. PAT. OFF.

IS A REGISTERED TRADE-MARK

"Hy-Line" is the registered trade-mark of Hy-Line Poultry Farms, a department of Pioneer Hi-Bred Corn Company. It can be properly used only in connection with chicks produced from Hy-Line breeding stock and only by authorized Hy-Line Chick distributors.

When You Buy Hy-Line Chicks
BE SURE YOU GET HY-LINE CHICKS

Each Hy-Line variety has a carefully pedigreed background. Its exact breeding cannot be duplicated by anyone else.

To get Hy-Line quality and performance, place your order with an authorized Hy-Line chick distributor or his representative. The trade-mark Hy-Line appears on his hatchery, his sales literature and his chick boxes.

Hy-Line

Over 300 Quality Hatcheries in the U. S. are Authorized Distributors of Hy-Line Chicks. Write for the Name of the Distributor Nearest You

LOOK FOR THE Hy-Line TRADE-MARK
Every authorized Hy-Line Chick distributor displays the registered Hy-Line trade-mark at his place of business and on his chick boxes.

HY-LINE CHICKS
HY-LINE POULTRY FARMS, a department of PIONEER HI-BRED CORN COMPANY
1204 Mulberry Street, Des Moines 9, Iowa

Your 1956 garden

From page 89

taken not to over-prune, as this may result in too much vegetative growth at the expense of fruiting.

Dwarf trees may set too much fruit. The excess fruit is easily reached and should be removed in early June. When thinning, leave 1 apple every 6 to 8 inches on the branch and 1 fruit to each spur.

The trees require high soil fertility and adequate moisture. They should be planted in well-drained soil and away from shaded areas. Yields usually aren't high.

Dwarf trees are produced by grafting the desired variety on a dwarfing rootstock or by grafting a short piece of dwarfing stem between the normal root and the desired variety top. They should be planted with the graft above the ground level. If this is not done, roots may arise from the base of the desired variety and the tree will soon become a standard-size tree.

Dwarf apple, peach, and pear trees now are generally available. For further information contact your county agriculture agent or the local nurseries.

Successful Farming's

Decorating Contest

Have you finished your entry for the *Successful Farming* Decorating Contest which ends February 1, 1956? Before it's too late, get your entry in the mail to qualify for the grand prize of an all-expense Mexico vacation for two plus $100 expense money!

Remember—*any* room in the house you are decorating is eligible to be entered in this contest. Here are the rules:

1. If you haven't already done so, order your official entry kit from *Department 2201, Successful Farming, Des Moines 3, Iowa.* This kit must be completed in full to qualify. The entry must be the work of the contestant.

2. Mail your entry as directed no later than February 1, 1956. All entries become the property of *Successful Farming* and none will be returned.

3. Entries will be judged by the editors of *Successful Farming* on the basis of good taste in decorating, originality, neatness, and uniqueness. The amount of money spent is unimportant. Duplicate prizes will be awarded in case of ties. The decision of the judges will be final. All winners will be notified by May 1, 1956. The prizes:

First: All-expense vacation in Mexico for two, including transportation by plane, lodging at a famous hotel, meals, and side trips from Mexico City, plus $100 expense money.

Second: A $1,000 United States Savings Bond.

Other prizes: Ten $100 United States Savings Bonds.

"Our Beautiful BALL DAHLIAS Scarlet Chief, Blue Boy"

If you send more than one quarter, we'll have to say, "Sorry, just one offer per customer!"

BOTH FOR JUST 25¢

To win new friends and customers, we offer you these two bulbs, SCARLET CHIEF and BLUE BOY . . . at less than half regular price.

These are husky bulbs, *guaranteed to bloom this year* . . . and are so easy to grow anywhere, in almost any soil, in sun or shade.

Ball Dahlias are the most popular of all dahlias with their perfect ball-form flowers and delicious colors. No wonder they delight thousands every year! Send coupon *today*—just one offer per customer.

"Our two beauties—Scarlet Chief and Blue Boy—one a deep red with ball-shaped flowers, the other blue . . . genuine show type BALL DAHLIAS, both for a quarter!"

HENRY FIELD Seed & Nursery Co.
606 Oak Street, Shenandoah, Iowa

I enclose my quarter for Scarlet Chief and Blue Boy BALL DAHLIAS, to be sent to me postpaid. And send along your new catalog, *free!*

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St. or Rt._____
P.O._____ State_____

"For Over 60 Years!"

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3 to 5 yr. healthy, selected trees, 6" to 16" tall. 5 each of: Colorado Blue Spruce—Norway Spruce—Austrian Pine—Scotch Pine—Douglas Fir.
Postpaid at planting time
Write for Free Evergreen Catalog

MUSSER FORESTS Box 23-A Indiana, Pa.

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(ROSA MULTIFLORA)

Now, a colorful Hedge—a living stock-tight fence for your farm at 1/3 cost of wire fence. Also other big **bargains.** Write for your copy of our illustrated **FREE Color Catalog** today.

KMLONG'S Box 68, Stevensville, Michigan

New Giant Hybrid ZINNIAS

The World's Largest Flowered Rainbow Mixture of Zinnias. Blooms 4" across. Send 3c stamp for 25c Pkt. (50 seed) of these Gorgeous Zinnias. Will include Big Colored Catalog. Write today. FREE

CONDON BROS. SEEDSMEN Dept. 100 Rockford, Illinois

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Successful Farming is your guide to better farm living.

Up to a pound of SOLID MEAT!

GIANT HYBRID "M" TOMATO

Can 'em whole in wide-mouth jars. Make solid salad wedges.

You'll be proud of these big, heavy, satin-smooth, scarlet globes, **nearly grapefruit size.** Extra solid, few seeds, thick walls. Get bushels from few plants. Read about new vegetables, flowers, fruits, field seeds in full-color catalog.

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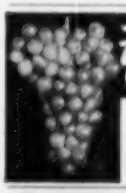

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Six new hardy Calif. type grapes and all standard varieties listed in FREE color catalog. Write to

STAHELIN'S NURSERIES
Box F-29, Bridgman, Michigan

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3 Gorgeous Colors in 3 Packets

Free! JUST SEND 3¢ FOR POSTAGE

Yes, here's fragrant beauty from early summer on through 'til frost. You'll love these colors; so, so soft, yet bold, too! And each color is in its own labeled packet. They're hardy, grow anywhere. And you'll get a real thrill from these beautiful, stately flowers, like those you find in the greenhouse. Don't miss them; send today.

GURNEY Seed & Nursery Co.
617 Page St., Yankton, So. Dak.

Yes, I'd like these 3 packets of yellow, red and pink Carnation seed. Here's 3¢ for postage. I'd like your new catalog, too.

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Sew right for

Winter days

Choose one of these easy-to-sew patterns that will give your daughter's dress that special touch during winter

Ideal for winter wear! Try sewing this sleeveless dress in a plaid to be worn with its accompanying blouse or with her favorite smart little sweater.

A washable rayon flannel or a synthetic would be wonderful for Advance Pattern 7765, children's sizes 2, 3, 4, 6. 35 cents. Blouse, collar pattern are included.

Velveteen sleeveless dress with a pretty eyelet collar, included in 7765, is the dressed-up version of jumper at left.

A pretty bib-like insert on this dress, which features grown-up styling in a girl's size, will make your daughter want to wear this dress often—either with or without the weskit that is included in Advance Pattern Number 7782, girls' sizes 6 to 14, 35 cents.

Why not make two weskits for different outfits—one weskit of the same material as the dress and one from a contrasting material?

Drawings: Spurgeon

These Advance Patterns may be purchased from your local dealer or directly from Successful Farming, 1101 Meredith Bldg., Des Moines 3, Iowa.

When someone's counting on you . . .

you can count on life insurance

Marriage is both a happy and solemn turning point in life. And, whether your experience is "for richer or for poorer," your life insurance helps you face the future with confidence.

Four out of every five families now own life insurance. For most it is the foundation stone of their financial planning. They know that they can rely on life insurance as sound protection for the future. And they can depend on it for help when emergencies arise.

Last year, American families received nearly $5 billions in benefits from their life insurance companies.

This is one reason why *you* can count on life insurance . . . and why it is America's most widely used form of thrift.

No two families have exactly the same need for life insurance. That is why it's so important to get experienced help in planning the right program for *your* family. Naturally, the best person to give you these specific answers is your own life insurance agent.

You'll also find helpful suggestions on the various uses of life insurance in the new booklet, *Your Life Insurance—and How to Use It.* Your free copy will be mailed promptly; simply send your name and address on a postcard to Dept. SF-1.

Yours free!

Institute of Life Insurance

Central Source of Information about Life Insurance

488 MADISON AVENUE, NEW YORK 22, N. Y.

Wheeltrack planting

From page 41

Indiana, Wisconsin, and many other states.

Research stations were starting wheeltrack planting tests. In 1953, trials were set up in Michigan and Ohio. The following year Illinois, Iowa, Purdue, the U.S.D.A., and others followed suit. Today farmers numbering in the thousands are using the method on at least part of their acreage.

To be sure, wheeltrack has two glaring disadvantages—at least when you first look at it. You have to plow no more than a day or two before you plant. And so far, it's not a method for 4-row equipment. Yet, Howe and Shugars now grow 700 acres of popcorn and say they couldn't do it the "old" way.

• Wheeltrack planting may not be the answer for everyone, but it has struck at a great waste—overworking the soil.

• It is also showing us that costs of raising corn can be cut by eliminating harrowing before planting. And one or two cultivations can be bypassed.

• We are playing right into the hands of weeds with present methods. A fine, firm seedbed for corn is also a fine, firm seedbed for weeds. And the weeds are busily sprouting before corn is planted.

• Wheeltrack planting shows us that our present methods lose us too much soil.

Orville Hays, in charge of the U.S.D.A. experimental field at LaCrosse, Wisconsin, has set up a test to check this. He plowed across a moderate slope, turning the furrows uphill. Part of it he worked up before planting. Part, he wheeltrack-planted. On June 20, 1½ inches of rain fell. There was no runoff from the wheeltrack-planted. A quarter of an inch ran off the conventionally-planted. Then the plots were cultivated and on July 8, a 2-inch cloudburst hit. Runoff was five times more from the conventional planting. Hays cautions that this is just one test, but many farmers have reported the same experience.

• *And soil erosion losses were correspondingly less.*

• Wheeltrack users have often commented that their corn was less affected by drouth. This may be due in some cases to increased water intake of looser soil.

Wheeltrack planting does not hurt yields. In all tests so far, yields of corn have been equal or better than conventional plantings—if the stand is equal. Stand has been a problem in some of the tests, but is generally corrected if disc openers are used on the planter.

Wheeltrack planting, no doubt, is not the final best way to grow corn. Like the first flying machine, it shows us the direction in which to work. New developments are coming along as research workers and farmers add their ideas. But Andy Shugars and Jim Howe surely started something.

Drawbar carrier is handy

This feed box, mounted on the drawbar of his tractor, has proved a handy winter addition for J. M. Garner of Chariton County, Missouri.

Garner handles hogs and some cattle and finds using this box easier than pulling a wagon about the farm for minor feeding. He hauls silage, baled hay, sacked feed and grain, or whatever is needed.

The unit is about 30″ wide by 6′ long and 20″ deep.

finer chopping with a GEHL Chop-All

PACKS MORE ACRES *into your silo*

SILO SPACE COSTS MONEY! GEHL owners will tell you that the *finer chopping* of the famous Gehl flywheel cutting mechanism makes it possible to store up to 50 more tons—FIVE MORE ACRES—in their silos.

Clean cut GEHL silage settles faster, packs tighter, keeps better . . . makes every foot of your silo pay off in bigger milk checks, better beef gains.

Five acres left in the field is money lost! Put your farm on a profitable, one-man forage harvesting program with a low-cost Gehl 2-Row "Chop-All." *Gehl gives you more chopper per dollar!*

GEHL BROS. MFG. CO.
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Check

Please show me how to save more money—store more silage with a Low-Cost GEHL 2-Row.....

Send me your Book—How to Rate a Chopper.....

Please check if for school use.....

Print Name.....

Street or R.F.D.....

State.....Acres Farmed.....

Veterinary

Wrong kind of lime caused sore feet

Not long ago we saw several cows that were lame and suffering from sore feet. They were all in the same herd and the owner thought they had foot rot, even though the ground was frozen outside and the barn floors were kept clean and well-limed.

Investigation showed that the lime was causing the sore feet. It was unslaked or quick lime, capable of causing severe burns whenever it came in contact with flesh or moisture.

As in this case, owners should be sure it is slaked lime they are spreading around in farm buildings.

Needle teeth to blame for restless sow

A farmer recently was having considerable trouble with a sow that had just farrowed. She didn't appear sick, and would lie quietly with the pigs crawling all around her. However, within a few minutes after the pigs started to suck, the sow would jump up, act cross, and try to eat her litter. If kept away from the pigs for a short time, she would quiet down and be all right until the pigs tried to suck again.

The owner suspected mastitis or soreness of the udder. It was finally discovered that the trouble was being caused by the needle teeth of the pigs. The sow accepted her family without question after the teeth were properly clipped.

Pays to breed heifers at the right age

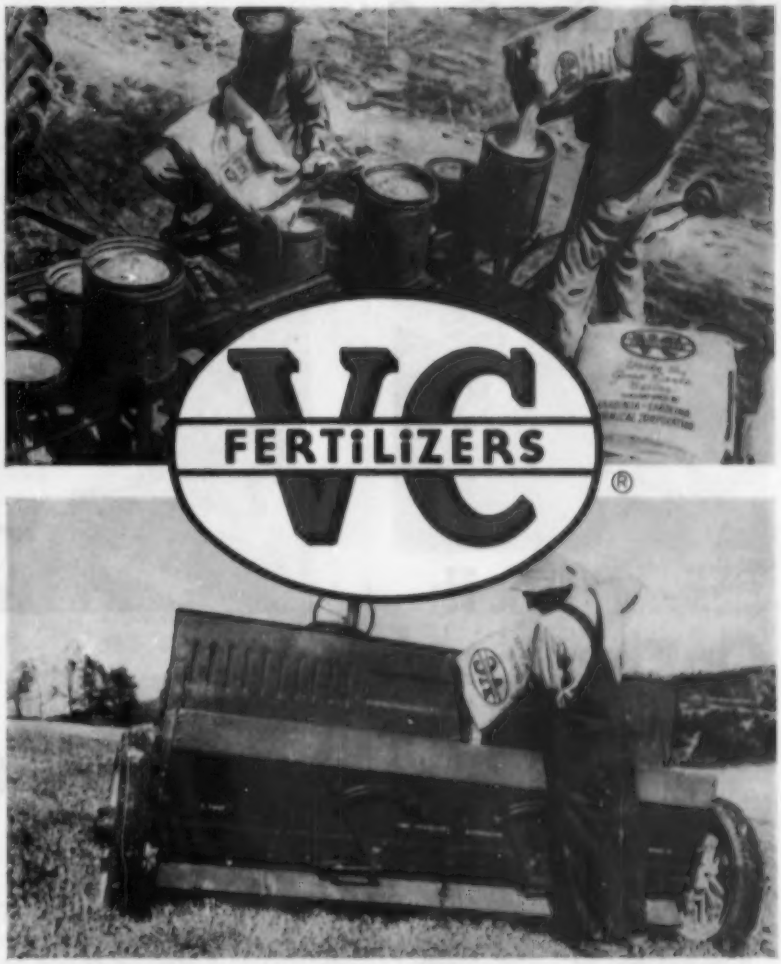
Several tests on Holsteins at the Wisconsin Agricultural Experiment Station revealed some interesting facts. It was found that heifers 31 months old or older at first calving usually gave more milk during the first four lactations, but decreased production rather markedly in the fifth.

It was also found that except for animals calving at less than 21 months, the calving ages from 22 to 28 months resulted in more total production to 7 years of age than the next older calving group.

In addition, workers pointed out that dairymen who allow their heifers to freshen with first calf at 32 to 36 months are likely to get one less calf in a cow's lifetime than those who try to have the first calf dropped between 24 and 27 months.

Damaged meat caused by wrong use of antibiotic

A Kansas City packing house official reported that his employees had to trim five tubfuls of red meat from a shipment of steers. They had recently received an intramuscular dose of a broad spectrum antibiotic in an oil base. Animals treated in this manner should not be shipped for at least a couple of weeks.



You'll make more profit with the right fertilizer for each crop...

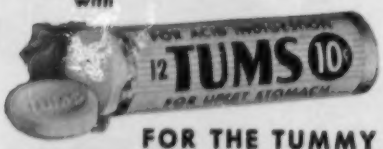
Each crop needs definite amounts of certain plant foods to make vigorous growth and produce profitable yields. The soil usually contains some of these plant foods but often not enough to grow the yields you want. The right fertilizer makes up the difference. You avoid waste and save money when you use fertilizers that supply the particular plant food needs of your crops on your soils. You make more profit because all you buy is essential crop-producing power. That's why so many leading farmers prefer V-C Fertilizers. V-C manufactures many different analyses and combinations of plant foods to provide the right fertilizer for each crop on each soil—the *right* fertilizer to grow big profits for you!

See Your V-C Dealer

Get the facts on the complete line of V-C Fertilizers, produced in a V-C factory located near you, for crops and soils in your vicinity. Ask about top-quality **V-C PROLIFIC,** the superior blend of better plant foods fortified with important minor elements lacking in many soils. V-C Fertilizers and V-C Superphosphates are backed by more than 60 years of experience in serving millions of farms in many states.

Acid Indigestion? Heartburn? Gas?

Wherever you are, whatever you're doing—you can **Fix it On The Spot!** with



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Northern grown trees are extra hardy and produce early. Apples, pears, peaches, cherries. Giant heavy rooted trees. Also super-size Black raspberries that will bear this summer. Bargains in shrubs, evergreens, and nuts. Quality guaranteed. Free catalog. Write today.
STAHELIN'S NURSERY, Box F-30, Bridgman, Michigan

Photographs: Reynolds, Photography, Inc.

Books need a home—in a spot where they're easily reached. In the Vernon Millers' Minnesota farm home, you'll find them in well-planned shelves on either side of the piano. The four shelves also provide a place for decorative china and art objects. Below is a cabinet for other storage.

You might find the same kind of space by closing up an unused door and putting in bookshelves.

These farm homes were planned for:

A place to put things

Whether you're building a new house or just remodeling, one of the most important considerations is enough storage. One good idea might be to take inventory and list how many books you have, card tables, office equipment, linens, and other items to be put in cabinets, closets, or drawers. Then, plan accordingly. See how these farm homemakers planned for adequate storage in their old and new farm homes.

Suter, Hedrich-Blessing

When the F. N. Flanders built their new Iowa farm home, they planned this utility closet in the central back hall. It is just opposite the farm office and near bedrooms and kitchen. It holds office supplies, safe, farm record books, camera equipment, and has gun rack

This built-in serves two purposes. It makes a divider between the entrance and living room, and also tucks away old radio, a record-player, and record albums. This makes an ideal reading and radio-listening spot with comfortable arm chair, and good reading lamp.

Mrs. Harley McLain made it more attractive in her Iowa farm home, by putting a planter across the top of the cabinet.

They helped make 1955 a big telephone year

Rural America will reap the lasting benefit of more and better telephone service through the work of thousands of telephone men and women during the past 12 months.

1 IN CALIFORNIA, R. T. Clemo, right, wire chief of Glenn County, spent much time with farmers and ranchers to fit telephone company construction plans to their needs. As a result of his surveys, $135,000 was spent improving service and adding telephones for hundreds of customers in his area.

2 IN OHIO, Paul Dougherty, right, is manager at Washington Court House. Much of his time was spent checking new rural construction and talking with farmers at Grange and community gatherings to learn of their telephone needs. Rural service in his area now includes over 2000 telephones.

3 IN ILLINOIS, Bernice Lordan, chief operator at Harvard, has watched telephones multiply each year. She has seen their service value grow for the 500 rural customers she helps serve. And she has seen this growth from both ends of the line—as telephone operator for 30 years and as co-operator of a good dairy farm.

The folks here are typical of the many Bell System men and women working in rural areas across the nation. Behind them are Bell Telephone Laboratories' scientists developing ideas to help serve rural America better. Together they're putting new things to use—a new wire, for example, that's easier to install, and a new cable many times more resistant to moisture and lightning. Last year this Bell System team brought telephones to about 300,000 more rural customers, and improved service to millions.

BELL TELEPHONE SYSTEM

The Herefords that bought 50 acres

WHEN Fred Winters saw his livestock production growing, he started investing part of his income from the sale of Herefords in U.S. Series "E" Savings Bonds. Today he raises feed on the new acreage he had the forethought to save for.

More and more people like Fred Winters are planning for the future through the regular purchase of U.S. Series "E" Savings Bonds. And no wonder. $3 put into Series "E" Savings Bonds today grow into $4 in nine years and eight months. Easily converted into cash, Savings Bonds are actually *safer* than cash. They're registered in your name and can be easily replaced if lost, stolen or burned.

Then, too, for those who prefer interest by check every six months, there are Series "H" Bonds. Your bank has further information about both types.

Make a down payment on the future by buying U.S. Savings Bonds today!

The crop that never fails—

U. S. Savings Bonds

The U. S. Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donations, the Advertising Council and

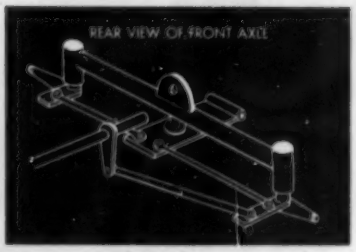
MAGAZINE PUBLISHERS OF AMERICA

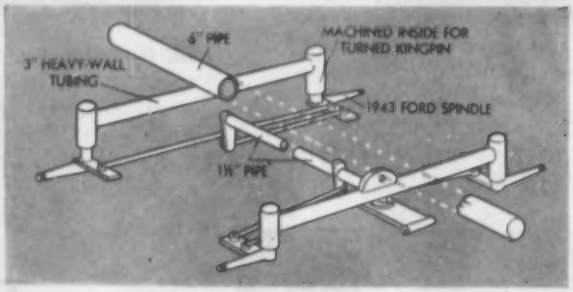
Photograph: H. Sibley

Easy-to-turn pipe trailer

Drawings at right and below show how Schain designed his irrigation pipe trailer. A 1½-inch pipe connects steering mechanism of front wheels to those on rear.

When front wheels are turned to the right, the front tie rods turn the connecting pipe. This causes the rear tie rods to turn the back wheels in the opposite direction.



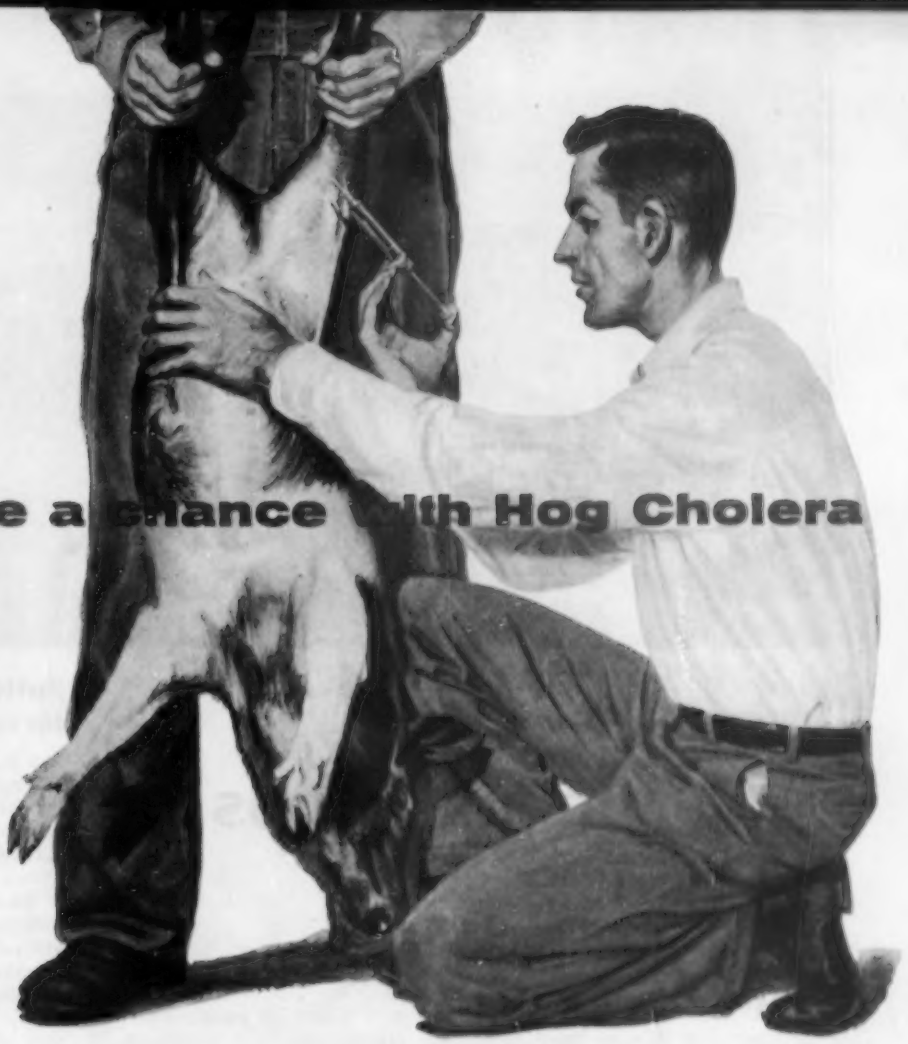


This irrigation pipe trailer designed and built by Charles Schain, farmer-mechanic of Lakeview, California, features not only sturdy construction but other practical features.

For ease of loading and unloading pipe, the 1-inch retaining side pipes may be lifted out of their 1¼"-pipe base and left dangling by a support chain. This open-side design permits workers to reach for irrigation pipe from either side of the trailer.

For best tracking, the rear wheels turn in reverse angle of those in front. A 1½-inch pipe connects front and rear tie rods. This rod is directly beneath the main chassis member, which is made of 6-inch pipe.

The axles are made of 3-inch heavy-wall tubing. Distance between axles is 21 feet. Overall length of trailer is 32 feet. The retaining side pipes are 8 feet apart. The trailer can be used to haul lumber, logs, and machinery as well as pipe.



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Do vaccinate with ROVAC

HOG CHOLERA VACCINE* LEDERLE

You might be lucky this year—or you might not. You just can't afford to take the chance of the heavy profit losses that result from hog cholera!

Instead of taking a risky gamble, stop hog cholera losses before they start. Give your hogs safe, dependable immunity against this costly disease.

ROVAC HOG CHOLERA VACCINE is recommended in the prevention of hog cholera. ROVAC assures immunity—and cannot cause the disease.

Instead of taking a chance, have the best available insurance against hog cholera. Vaccinate with ROVAC. Write for free literature.

ADVANTAGES OF ROVAC

- *Single injection in healthy pigs gives at least two years immunity.*
- *Serum is not required with ROVAC for pigs not exposed to hog cholera just before, at time of, or immediately after vaccination.*
- *ROVAC can be used with serum if immediate immunity against hog cholera is required.*
- *ROVAC saves time, money and labor.*

DUOVAX® *Erysipelas Bacterin*** for Erysipelas

Erysipelas is another widespread swine disease that causes heavy death and profit losses. Vaccinate against erysipelas with DUOVAX ERYSIPELAS BACTERIN for dependable immunity. Only one injection. DUOVAX requires no antiserum—and cannot spread or cause erysipelas.

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Soils and crops

Air-blast sprayers call for new look in orchards

The new look in commercial apple orchards calls for a 20-foot tree, with plenty of open space for the spray to go through. A study of concentrate sprays on apple trees by the Cornell University entomology department shows that the shape and structure of the tree is very important for efficient operation of modern air-blast-type orchard sprayers.

A tree dense with growth early in the season will be impenetrable to air-blast sprayers later in the season. This requires heavy pruning in many of the older orchards. Cutting the tops back to 20 feet in height, and opening up the centers of the trees are prime requirements for this new equipment.

What rate best to top-dress wheat?

Louis Webb, township agricultural agent in Calhoun County, Michigan, laid out a fertilizer test last year that will interest every wheat raiser.

Wheat was planted September 21 and top-dressed April 1. Here are the wheat yields with their value *after fertilizer costs are paid:*

Rate 1: Where no fertilizer was used in the control plot, the yield was only 13 bushels per acre—a value of $23.40.

Rate 2: Where 370 pounds of 0-20-20 was used, the yield went to 19 bushels—worth $27.70.

Rate 3: Where 350 pounds of 4-16-16 was applied, the yield jumped to 30 bushels—worth $43.50.

Rate 4: Where 350 pounds of 4-16-16 plus 100 pounds ammonium nitrate were applied, the yield was 26 bushels. This amount of wheat was worth $49.80 after fertilizer costs were paid.

Rate 5: Where 450 pounds of 4-16-16 plus 100 pounds of ammonium nitrate were applied, the yield was 45 bushels, worth $63.

Cribs 167 bushels per acre from 5 acres

Max Loibl, Cozad, Nebraska, farmer, weighed in 901.24 bushels of 21.5-percent moisture corn from 5 acres last October. Converted to 15½-percent moisture, this was 167.45 bushels per acre.

This was third-year corn following alfalfa. Phosphorus and potassium were high from previous treatments. He disced 100 pounds of ammonium nitrate in with the stalks before plowing. On May 7 he power hill-dropped 4 kernels every 28 inches in 40-inch rows. The hybrid was one known to take high planting rate. He had to irrigate the corn up and side-dressed with another 100 pounds of nitrate. Beginning July 4, he irrigated every week and a half—5 times altogether. The five acres grossed over $1,045.66.

Switchgrass looks good for reseeding waterways

A grass to fit the conditions you find in a waterway such as the one shown in the photograph above has to measure up on a lot of scores.

If you were to look for conditions of wetness and drouth, high and low fertility, poor seedbed, you'd find it first in a waterway. Our best forage grasses fade under these stresses. But now tests indicate that switchgrass may do better than anything we now have in waterways.

Switchgrass will grow under moderately wet conditions but will also stand considerable off-and-on drouth. Seed size, quality, and yield are in its favor. It will grow and produce cover on soil with a low nitrogen level but will respond to improved fertility. It is only moderately palatable as pasture after it goes to seed. A stand has sometimes been cut for hay for generations.

There has been only limited seed production in Kansas and Nebraska, therefore, prices have been high—$1.85 per pound wholesale in 1955. Seed yields over an 8-year period average 363 pounds per acre on field scale plantings at the Ames, Iowa, Soil Conservation Service Nursery.

Gaining ground against Khapra beetle

A campaign is well underway in California aimed at eventual eradication of the Khapra beetle there. This major stored-grain pest was discovered first in the United States last year.

A total of 203 infested premises were found in California. Of these, 63 have been fumigated, 24 are under contract to be treated, and 116 remain untreated. Most of this last group are on farms and there is less chance of spread than from an elevator, for example. Of the 69 infested dealer premises, 40 are treated.

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Poultry pointers

Old hover boosts efficiency of small electric brooder

A large hover from an old brooding unit (shown above) is used on the Riley Edwards farm, Cooper County, Missouri, to boost efficiency of a smaller electric brooder. The 4-bulb unit handled upwards of 300 chicks effectively.

Egg handling biggest chore for California poultrymen

Egg care takes up 58 percent of the time spent by a poultryman with his laying flock. That's what a study with five farmers showed to Farm Adviser Lloyd Sharp of the University of California.

The care of eggs included gathering, grading, cleaning, and packing in cases. In contrast, feeding the hens required only 16 percent of the time used; management, 5 percent; pullet management, 15 percent; and maintenance, bookkeeping, and pest control, 6 percent.

Hormones step up turkey growth in Missouri tests

Hormone-fed turkeys put on a pound of gain for every 3½ pounds of feed in a University of Missouri test just completed. Males weighed 17 pounds and females 11½ pounds when marketed at 19½ weeks of age.

In addition, more than two-thirds of the males graded "A." Only half the untreated males made this grade. The ratio was even greater on treated females with 80 to 85 percent grading "A," compared to less than 45 percent of the untreated.

All treated birds received a male hormone, testosterone, from 6 to 16 weeks of age in the first trial of this kind. Weights at this point showed treated males averaged a pound heavier and treated females ¾ pound heavier than untreated test pens.

After 16 weeks the male-hormone treatment was discontinued and birds were given stilbestrol, a female hormone, along with an antithyroid drug until marketed. This phase of the experiment slowed growth but materially improved fattening quality. At market time, 19½ weeks of age, both treated and untreated birds weighed the same. The payoff was in the more mature and better quality treated birds which could go to market.

Harold Biellier, research poultryman in charge of the experiment, says it is apparent that the male hormone was effective in stimulating early growth. But it is still too early in the experimental stage to be put to practical use on farm flocks and is not available commercially.

The female hormone, however, is available and had the desired effect on birds which Biellier was working toward. Despite the fact that it does slow growth, it gave earlier maturity to the birds by improving the fattening quality and feathering.

How much feed waste with mechanical feeders?

Feed wastage varies with the different sizes of mechanical feeders. Research work conducted by a commercial poultry farm in California shows the importance of trough size to poultrymen:

Trough sizes

Type of trough	Depth of trough	Width at top
A	4⅜"	6¾"
B	3½"	6¾"
C	2⅜"	4¾"
D	2½"	3¼"

Average amount of feed estimated to be wasted per bird per year when eating from different types of troughs under the conditions of this experiment:

Type of trough	Feed waste (bird) year in pounds
A	4.2
B	6.1
C	12.8
D	13.9

This is approximately enough savings in feed per hen to buy one replacement pullet chick each year. This is checking only feed wastage with different size troughs and does not include feed wasted in numerous other ways.

Piperazine wormer is given in drinking water

A new piperazine-base drinking water wormer is now on the market. It may be given to all poultry as a one-day treatment for large roundworms. This wormer may be used on growing stock or layers and can be given to sick birds without harmful results.

Take care of

Stretch stockings

Have you wondered about stretch stockings? Should you buy them? Or perhaps you are wondering how to care for them!

Here are answers to your questions:

Appearance: How can those "doll-size" stockings fit your feet? The nylon yarn is permanently twisted, before it is knitted into stockings, to make it springy and stretchy. This gives stockings their small appearance, but when you put them on, they adapt to the contour of your leg and foot.

Size to buy: Stretch stockings are made in several different proportions, according to foot shape and length of the leg. So, please buy the right size. If you do, the stockings will fit comfortably and will have enough "give" to resist run-popping when you stretch or bend.

Photograph: Hopkins

Take special care when putting on a stretch stocking. Roll it to toe and slip it on foot, stretching it to get heel and toe in position

Weight: Stretch hosiery comes in different weights—some are for dress wear and others for general. Ask for the *weight* you want—*not* just *stretch hosiery.*

Advantages: The perfect fit that gives a very pleasing appearance to your legs is the main advantage of stretch hosiery, for it molds to the shape of your legs every time—never too tight or loose.

Putting on: After the heel and toe are properly positioned, draw the stocking up over the leg, straightening the seam as you do so. If you find the stocking is too short, roll it down and stretch a bit more as you draw it up. If it is too long, do not stretch quite so much.

Straightening seams: Never try to straighten a seam by tugging at it. The seam will stay exactly where you put it, so if it is crooked, roll the stocking down and start over again.

And stretch stockings aren't any more expensive than regular hosiery of the same quality, so keep a well-stocked hosiery wardrobe of various weights and colors to suit all your activities!

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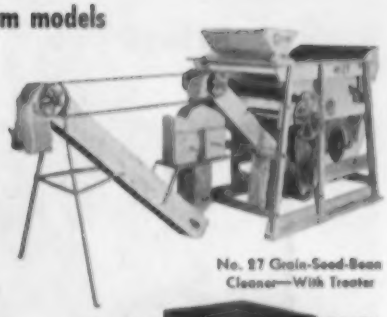

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Tips for

Ideas that add and make food

● Here's a slick trick for leftover hamburger buns: Toast split buns (or bread slices) on one side. Spread untoasted side lightly with 1 teaspoon frozen orange-juice concentrate and sprinkle with cinnamon and sugar. Place under broiler to brown and bubble up. Serve hot.—*Mrs. G. F. Garrison, Illinois.*

● It's an unusually attractive midwinter salad. Arrange alternate slices of avocado (peeled) and unpeeled red apple slices with orange and grapefruit sections on crisp salad greens. Top with French dressing.—*Mrs. Betty Hardy, Oregon.*

● When you'd like an easy-to-fix dessert, try this: Prepare a package of vanilla instant pudding according to package directions. Fold in 7 marshmallows, cut fine, and 1 cup crushed peanut brittle. Spoon mixture into sherbet glasses. Top with more peanut brittle, if desired.—*Mrs. Frank Pflug, Nebraska.*

● Give added flavor to buttered carrots. Just before serving, add chopped parsley and chives to the carrots. Let stand briefly to blend flavors.—*Blanche Campbell, California.*

● A bit of Roquefort or blue cheese crumbled into French dressing adds a special flavor. Try it on fruit salads.—*Mrs. Elaine Hardy, Utah.*

the cook®

sparkle to meals

preparation easier

● For a quick fruitcake substitute, try this idea: Prepare a package of gingerbread mix according to package directions. Then add 1 cup ground raisins and a ground whole orange. Bake 5 to 8 minutes longer than package directions indicate. Serve with whipped cream or hard sauce, if desired.—*Mrs. D. E. Hermanson, Minnesota.*

● Try this good way to use up leftover potatoes: Pour about ½ cup light cream into a skillet. Add chopped, cooked potatoes to the cream. Simmer gently over low heat until cream thickens and browns slightly. Add ¼ cup grated American cheese for extra flavor.—*Mrs. Arnold Rosen, Minnesota.*

● For those of you with a special fondness for meringue-topped mince pie: Glamorize that old favorite by adding a teaspoon of grated lemon peel to the usual meringue. Brown meringue as always.—*Mrs. Vivian Powell, Missouri.*

● A good-to-eat cherry dessert: Save the juice from No. 2 can pitted Bing cherries (juice makes about 1 cup). Heat juice to boiling. Add ¾ teaspoon cinnamon, ⅛ teaspoon salt, ½ teaspoon grated lemon peel. Simmer 15 minutes; strain. Combine 2 teaspoons cornstarch and 3 tablespoons water. Add to hot sauce; cook over low heat until thickened and clear. Add cherries and heat. Serve hot or cold over slices of angel cake topped with vanilla ice cream.—*Mrs. Mabel Miller, Kansas.*

● These hot, open-face sandwiches will solve many a quick-lunch problem. Spread bread slices with softened butter. Then arrange leftover meat loaf (cut in slices about ¼ inch thick) on buttered surface of bread. Top each with a slice of American cheese. Sprinkle with paprika. Place on cold broiler rack and broil in a preheated broiler until cheese melts and meat is heated through. Serve hot with soup and vegetable relishes.—*Mrs. Nevill Streuter, Illinois.*

Cook from Milwaukee wins for sixth straight year

Wisconsin Governor Presents Cooking Award

Along with attending the State Fair last fall, Wisconsin's Governor Walter Kohler had the pleasant task of presenting a cooking award to Mrs. Eugene Birkholz. This award was one of 11 which Mrs. Birkholz won in the cooking competition there.

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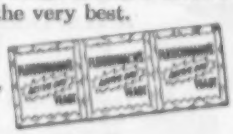

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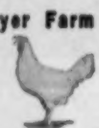

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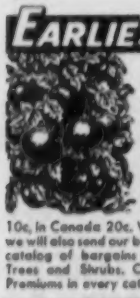

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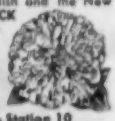

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Canadian Farm Lands—New and improved land in productive soil areas. Reasonably priced. Good settlement opportunities. Free information from Canadian National Railways, Room 8-100, Union Station, Winnipeg 1, Canada.

Save $'s. Buy Direct from Government, Surplus Farms, Homes, land, etc. List $1.00.
Box 169 SML, East Hartford 8, Conn.

Beautiful Dairy Farms Central Wisconsin, write for free list.
Johnson Realty, Route 2, Box 80, Marshfield, Wisconsin.

Free "Information About the Ozarks". Farm list with actual photos. Owensby, Realtors, Buffalo, Missouri.

TRACTOR—AUTO PARTS

Save On Tractor Parts—Buy direct from nation's largest combination stock of new and used parts. Free 1956 catalog. Central Tractor Parts Company, Des Moines, Iowa or Albert Lea, Minnesota.

Want to buy a farm or business? Check the offerings and catalogs listed under the heading of "Farms-Real Estate".

Cattle King OILER

Cattle treat themselves. Rub insecticide all over. Apply it where and when needed. Improved, new-type roll applicator gets real results at really low cost. Roll is **"spring encased"** for longer wear and greater "scratchability." Easy to fill with patented **filler magazine.** Easy to install! No pulleys or weights. Attaches to any post.

SPECIAL OFFER! . . . Now, limited time! **With** your Cattle King Oiler, get 1 Gal. of Rotenone Concentrate, which mixes 1 to 20 with #2 fuel oil for use in oilers . . . BOTH for only $31.50, **Parcel Post Prepaid.** Send cash with order, or C. O. D. plus postage, if you prefer. Write—

Cattle King Co., Box 114 S Omaha 12, Nebr.

Free Coupons Introduce New "Pot-O-Gold" Layer

A new chicken is making a sensation. Lays as high as 25 dozen eggs for each 100 pounds of feed. In a large official laying contest, the rugged-as-a-mule pedigree-blooded Berigolds outlaid the average record of 572 other hens. 21 eggs per hen more for the year. 4,735 demonstration hens netted over $3.64 profit each, laid average 215 eggs per hen. To introduce these chicks everywhere, a trial shipment will be made at Berry's expense. Small handling and shipping charge is only cost.

George Berry Ernest Berry

Write for Free Gift Certificate to **George Berry, 307 Ajax Rd., Quincy, Ill.; or Ernest Berry, 307 Sunflower Rd., Newton, Kan.; or Berry's Chicks, Box 307, Dawsonville, Ga.**

DUCKS GEESE TURKEYS
All offer profitable opportunities to earn extra income

DOLLAR Flower Garden

Special! GENUINE **Burpee** SEEDS **10c**

FOR LIMITED TIME ONLY

Here's a gardenful of all the best colors and most popular kinds of flowers—four 25c-Pkts., a dollar's worth for only 10c!

To get acquainted, we'll send you our **Super Giant Zinnias,** largest ever seen, also **Petunias on Parade, Sun Giants Marigolds, Fordhook Asters;** big $1.00 value—*Send Dime Today.*
Burpee's Seed Catalog FREE.

W. ATLEE BURPEE CO., 558 Burpee Building Philadelphia 32, Pa. or **Clinton, Iowa** or **Riverside, Calif.**

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Raise your own trees and shrubs from SEEDS. Beautiful Evergreens, lovely trees and shrubs for shade, windbreak, snow fence, erosion control, ornament, etc. For FREE planting guide and price list write

WOODLOT SEED COMPANY, NORWAY 7, MICH.

BERRY'S GUARANTEE YOU SAVINGS UP TO 20%

SEE THE STARTLING DIFFERENCE IN ABOVE PICTURE OF MR. WILSON'S FIELD

"14 Gro-Coated Plants to Sq. Ft. vs. One or Two on non-Gro-Coated Side" writes Mr. Herb Wilson of Redfield, Iowa. "Last year I planted Gro-Coated Red Clover and was amazed at the difference. I had a chance to compare it because I filled one half of my drill with home grown seed and the other half with Gro-Coated. When seed came up I had 75% more plants from Gro-Coated than the other. On second year's growth, I had 14 mature plants per sq. ft. in Gro-Coated clover, only one or two in non-Gro-Coated area. A big hay crop from the Gro-Coated and plenty of second growth to plow under." Signed HERB WILSON

WITH GENUINE GRO-COATED FARM SEEDS

AT NEW FREIGHT PAID PRICES

For seven years our sensational development—GRO-COATED Brand Seeds—has been showing astonishing results on thousands of farms. Hundreds have written us. See customer Wilson's letter at left. NOW, with the wonderful **guaranteed** protection of our Gro-Coated Brand Seeds you can get normal stands on 1/3 to 1/4 **less seed** than regular seeding rates (or up to 20% bigger stands on usual seeding rate). **You also save on freight cost** as explained in our catalog. And this year saving really counts!

Helps Prevent Seed Rotting In Ground

GUARANTEED BETTER CROP STANDS

Because the GRO-COATED formula is designed to protect against seed-destroying fungi on the seed and in the ground around it we **guarantee better stands** or refund difference in seed cost. Chemical root stimulant added for longer, sturdier roots.

BIG SEED SAVINGS — BY MAIL

Up to 160 GRO-COATED Brand selections in blends, mixtures, also origins and grades. Gro-Coated Alfalfa, Clovers, Grasses, Forages, Oats, Hybrid Corn. NEW ALFALFA BLENDS for special needs, increased leaf growth, etc. DON'T DELAY, get our Big 1956 Catalog, Free Samples and Prices. Leaders in seed values for four generations.

JUST A FEW OF OUR GRO-COATED VALUES—

New GRO-COATED ALFALFA BLENDS $15.60 & $16.80 bu. For special needs. Heavy foliage.	**GRO-COATED RED CLOVER** $21.90 bu. Hardy. Home Grown.
GRO-COATED Sweet Clover $8.70 bu. New Crop. Good quality.	**GRO-COATED Clover and Grass Mixes** as low as $13.95 for 50 lb.

SEE CATALOG FOR FREIGHT PREPAYMENT DETAILS

FREE BIG TOMATO PKT. With catalog a big 25c packet of our New F-2 Hybrid, Wilt Resistant Tomato seeds, absolutely Free. Rich red, juicy.

FREE! 40 GLADS We want all to enjoy these lovely, gorgeous mixed color gladiolus: large, blooming size bulbs. See offer with catalog.

BERRY SEED COMPANY BOX 1819 • CLARINDA IOWA

FREE BIG 1956 CATALOG AND SEED SAMPLES

MAIL THE COUPON BELOW, or write. Get Berry's great NEW SEED CATALOG and Planting Guide. 36 big pages of best GRO-COATED, money-saving offers in years. Check Gro-Coated Field and Grass Seed Samples you want to examine, test, compare. They are free. Read Gro-Coated Guarantee in catalog. Figure freight saving on our direct shipments. Also Vegetable and Flower Seeds, Nursery Stock, Supplies. FREE Tomato and Gladiolus offers.

MAIL COUPON

BERRY SEED CO., Box 1819, Clarinda, Iowa
Please send me your 1956 BERRY SEED Catalog of Gro-Coated Brand Seed values and Free Samples as indicated below. (Also Free 25c pkt of Tomato Seed.)

Name .....

Post Office .....

RFD ..... State .....

FREE SAMPLES—Check which below. Write others in .....
..... Alfalfa; ..... Alfalfa Blends; ..... Red Clover;
..... Alsike; ..... Sweet; ..... Timothy; ..... Brome;
..... Grass Mixtures; ..... Corn; ..... Oats;
Others! .....

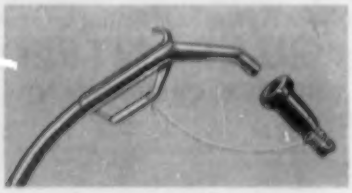
All around the farm. A page written by our readers

To make an accurate measuring stick for the tractor fuel tank, I emptied the tank and then filled the tank 5 gallons at a time, each time marking the stick according to the actual measure indicated when the stick was dipped into tank.—*M. D., Nebraska.*

A strong magnet placed in a paper bag provides a quick and easy way to pick up iron filings and shavings. The filings, which cling to the outside of the bag, can be discarded by holding the bag over a trash can and removing the magnet. By use of the bag, the filings drop into the can and the magnet stays clean.—*R. D., Wisconsin.*

We use a permanent hinge attachment for our trailer license plate instead of fastening it directly to the trailer tail gate. When the endgate is up or when it is flat and hanging on the chains, the license plate is always visible from the rear.—*L. H. K., Missouri.*

Tank hose spouts can be kept free of dust and water by kinking the end of a discarded milker inflation and tying it

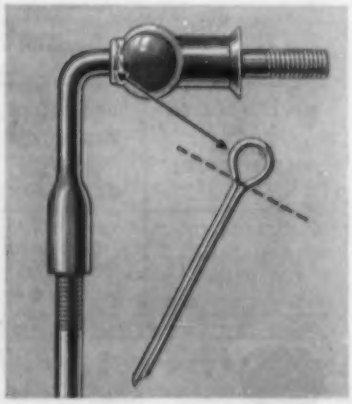


securely, as shown. The inflation may be tied to the tank or to the nozzle handle.—*S. A., Colorado.*

I protect all hydraulic couplers with squares of aluminum foil. For this purpose I keep 4"-6" squares in my toolboxes on all machines having hydraulic equipment. These squares may sometimes be cut from used foil from the kitchen. When it is necessary to leave a hydraulic fitting exposed to dust, dirt, or the weather, I just press the piece of foil around the fitting, and it affords full protection in a matter of seconds. —*H. B. S., Nebraska.*

To saw long boards or sheets of plywood on my bench saw without extra help to hold one end of stock, I made the stand illustrated. To use this on different saws, I made each leg of two pieces of angle iron so the legs may be lengthened or shortened as required. The angle iron I used came from old bedrails, and my rollers are from discarded clothes wringers. The frame can be set at the end of the saw in line with the cut for boards, or set beside the machine to support wide sheets of plywood.—*H. K. K., Minnesota.*

The ball joints of throttle and governor controls often wear to the point of falling apart at the socket. We end this trouble with a better-than-new repair by cutting off the head of a proper-sized cotter key and spreading it to go over the ball stem. The cotter key is then closed and welded to the worn socket, as shown in illustration below. —*J. L. A., Iowa.*



I painted the rails on our cattle guard a bright yellow to prevent unruly cattle and horses from jumping it. Since I did this, there has been no trouble with the livestock attempting to jump over. —*L. W., Missouri.*

I made an inexpensive anvil from a short length of railroad track, cutting two 2x10 boards to fit the iron, as

shown. The frame around the 2x10s supports the iron at a comfortable working level. A tool rack can be built on the sides, as shown.—*C. W. S., Ohio.*

An old square-type rubber from a bicycle pedal makes the best file handle we have ever used in our shop.—*L. E. K., Minnesota.*

To unroll sheathing paper, tar paper, and the like, I lay a couple of roller skates upside down on the floor. The roll of paper is laid on the upturned rollers of the skates. I can then reel off any length required and cut it off at the roll.—*C. B. F., Pennsylvania.*

To direct the light rays from bare light bulbs in the barn or garage, I make a reflector out of a small foil plate such as those used for packing frozen food. I simply cut a hole in the center so the foil plate will slip over the small end of bulb and return the bulb to the socket. —*P. M., Ohio.*

Successful Farming invites you to share your ideas with the rest of our readers. We pay $5 for each item upon publication, but regret we cannot return those we don't use.—The Editors

weather MEETS TWO MASTERS

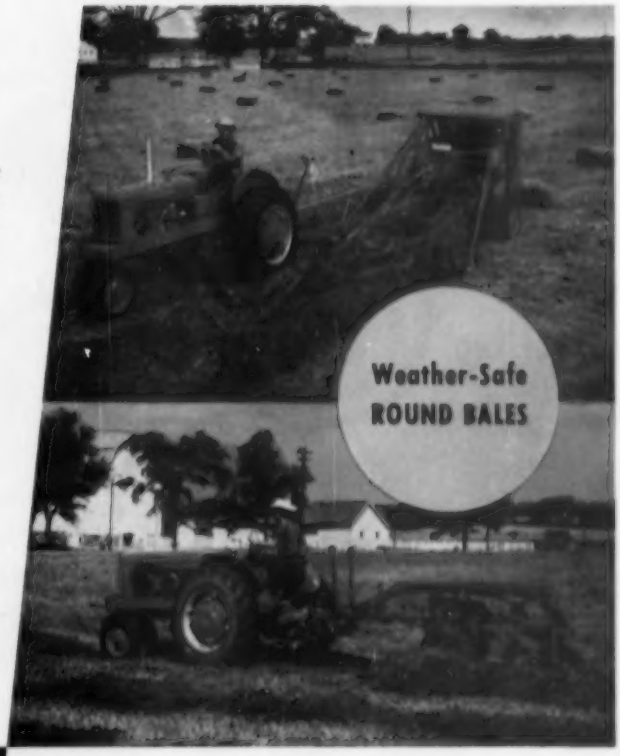
Weather-safe feed is the best news yet for your herd. Haytime rains have met two masters—the ROTO-BALER and the Forage Harvester—engineered by Allis-Chalmers for *any* farm regardless of acreage. Now you can capture quality at its leafy best . . . two ways.

When blossoms say "Go!" . . . you're set to move fast with either machine. Teamed with the Power Rake and Allis-Chalmers Blower, they beat delays that can destroy the feed value of your crop.

Rain or drouth, you can breathe easy. You have hay safe in round bales with the built-in "umbrella" . . . and chopped forage preserved at its peak of nutrition.

Valuable feed often weathered and lost can pay for both outfits . . . why not *own* them? Your Allis-Chalmers dealer can show you their exclusive key features in action—just ask him!

FARM EQUIPMENT DIVISION—MILWAUKEE 1, WISCONSIN



ROTO-BALER makes the only round, buckle-proof bales with leaves sealed in . . . weather sealed out . . . a joy to handle and feed.

POWER RAKE has gear-shift control, 33 roller bearings. Two speeds forward, one reverse for tedding. The rake with *seven* outstanding performance features.

FORAGE HARVESTER'S *cut-and-throw* knives chop big tonnage with PTO. Knives are power-sharpened right in the machine with built-in sharpener.

Allis-Chalmers BLOWER *blows-and-throws* heavy volume through big 9-inch pipe. Big capacity for power unloading wagons. Fan blades are wide and cupped to handle silage and grain *fast*.

ROTO-BALER is an Allis-Chalmers trademark.

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and up to 24 months to pay!

1956 is a wonderfully good year to switch to fast, clean, safe Surge Milking . . . to time-proved TUG & PULL Surge Milking.

Thinking about a pipeline? Surge Parlor Stalls . . . Parlor Pipelines . . . Stanchion Pipelines . . . everything . . . is sold on easy terms, a low down payment, and up to 24 months to pay.

Remember well — no matter what kind of Surge Milker you select, you are sure of genuine Surge TUG & PULL milking and Organized Surge Service.

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